

# THE CONTRACT JOURNAL

INCORPORATING

THE BRITISH CONSTRUCTIONAL ENGINEER AND THE CONTRACTOR

No. 4,209 81st YEAR

THURSDAY, FEBRUARY 25, 1960

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# THERE'S

# Winget

# Ready

# Pre-mixed

**PLANT**  
This plant belongs to Messrs. Penfold Ltd. of Barnham Junction, Suffolk. It produces both Pre-mixed or Dry Batched concrete.

**MIXING**  
The mixer (right) is a Winget high-speed Turbomixer of 2 cu. yds. capacity. Winget Turbomixers are being used extensively in this type of plant because of their high speed, the high quality of the mix and the small amount of space needed for accommodation.

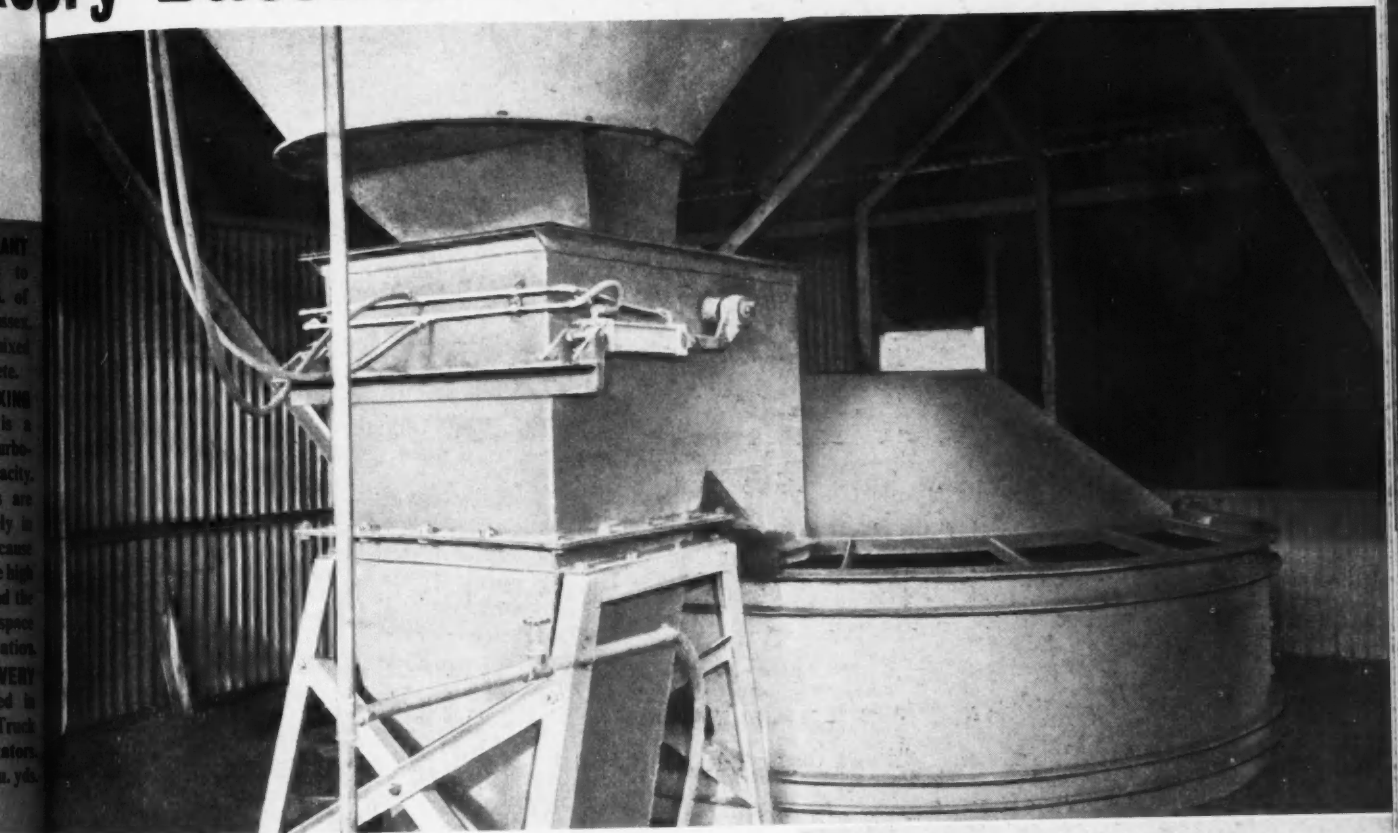
**DELIVERY**  
Concrete is delivered in Winget Challenge Truck Mixers and Agitators. Available in 4 and 6 cu. yds. capacity.





# S BIG BUSINESS IN Mixed Concrete Plants

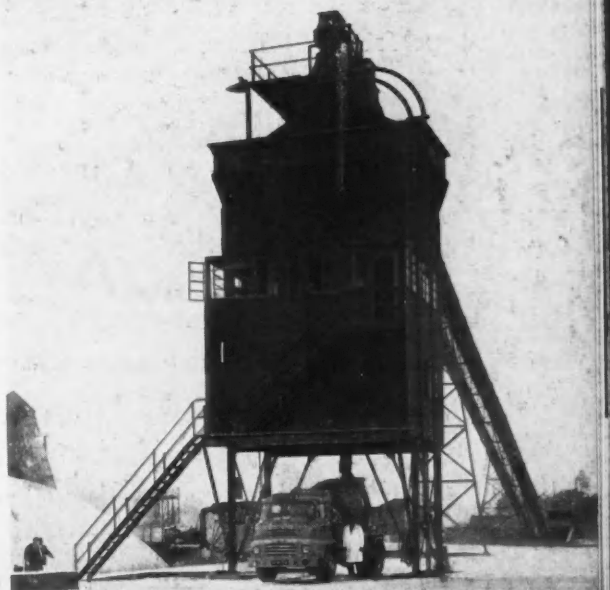
## dry Batched or both



Winget can always offer the exact plant to suit any requirements or circumstances. Various types may be seen all over the country at such places as—Sandwich, Canterbury, Rochester, Waltham Abbey, Gloucester, Yeovil, Rickmansworth, Barnstaple, Swarkestone, Battersea, Manchester, Liverpool, Bedford, Birmingham, Edmonton, Southwark, Middlesbrough, Dudley, Warrington, Plymstock, Sheffield, Southampton, Grimsby. The Dry Batch plant shown on the right is owned by Messrs. Brett Ltd. of Canterbury.

### WINGET LIMITED ROCHESTER KENT

Tel: Strood, Kent 7276 (5 lines)



# 3000 TONS for 40/-

## Atlas Copco Bencher introduces new money saving technique

### WAGON DRILL PERFORMANCE AT HAND DRILLING COST

3000 tons is a modest estimate of the amount of rock obtainable from the 750' of shot hole recently drilled by one man in one shift using three Atlas Copco BENCHERS with SANDVIK COROMANT DRILL STEELS.

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Even the use of one Bencher will halve your labour costs as it will drill at double the speed of any hand held machine. The Bencher has POWER EXTRACTION too!

Ask your nearest Atlas Copco branch to prove these advantages to you—without obligation.

#### SANDVIK COROMANT STEELS

Sandvik Coromant are today's most widely used drill steels, currently drilling more than 1300 million feet of rock a year. Their quality is high and uniform—guaranteeing a low cost per foot at all times.

**Atlas Copco**  
COMPRESSED AIR ENGINEERS



One man can easily operate two Benchers simultaneously.

Ask your Atlas Copco representative to tell you how this ingenious anchor operates.



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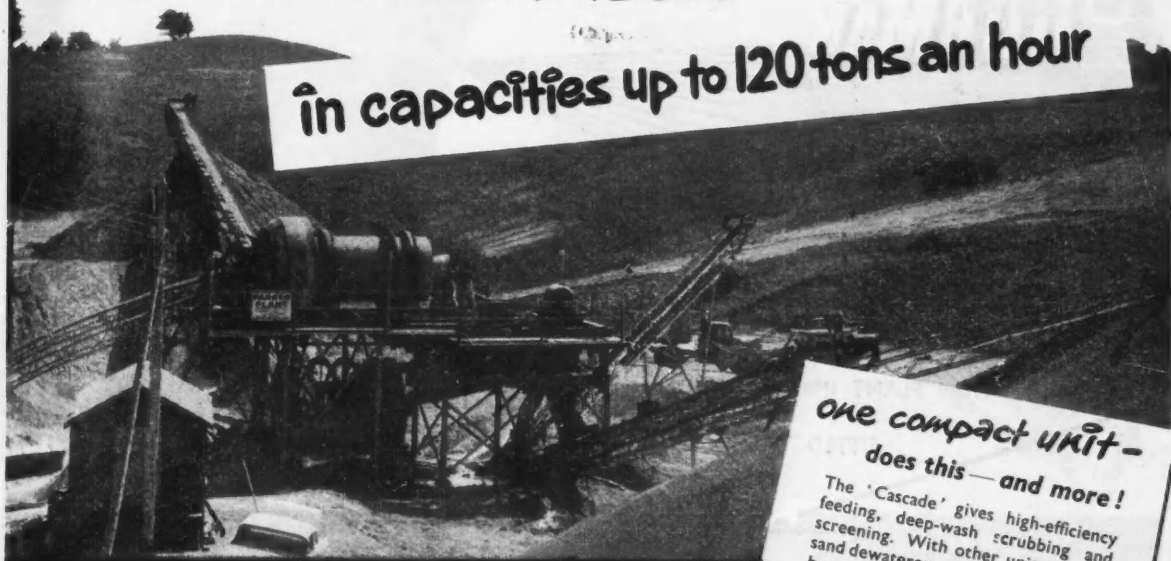
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D/59/109

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Full details are in Publication No. 430

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one compact unit -  
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Cheapest first cost . . . cheapest spares. Made by the diesel dumper specialists. The new 15 cwt. 'Nimbus' T.3 beats them all! With a heaped capacity of 22 cu. ft. a speed of 9/12 m.p.h., heavy duty 3-speed constant mesh change-on-the-move gearbox, etc. It cuts costs with every load.

Price

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ex works.

*Cheapest in its class.***ARPS TRENCH-DEVIL Model MA**

Cuts trenches up to 8" wide and down to 3 ft. deep for water, gas and electricity services.

Will work on footpaths . . . pneumatic tyres obviate kerb damage.

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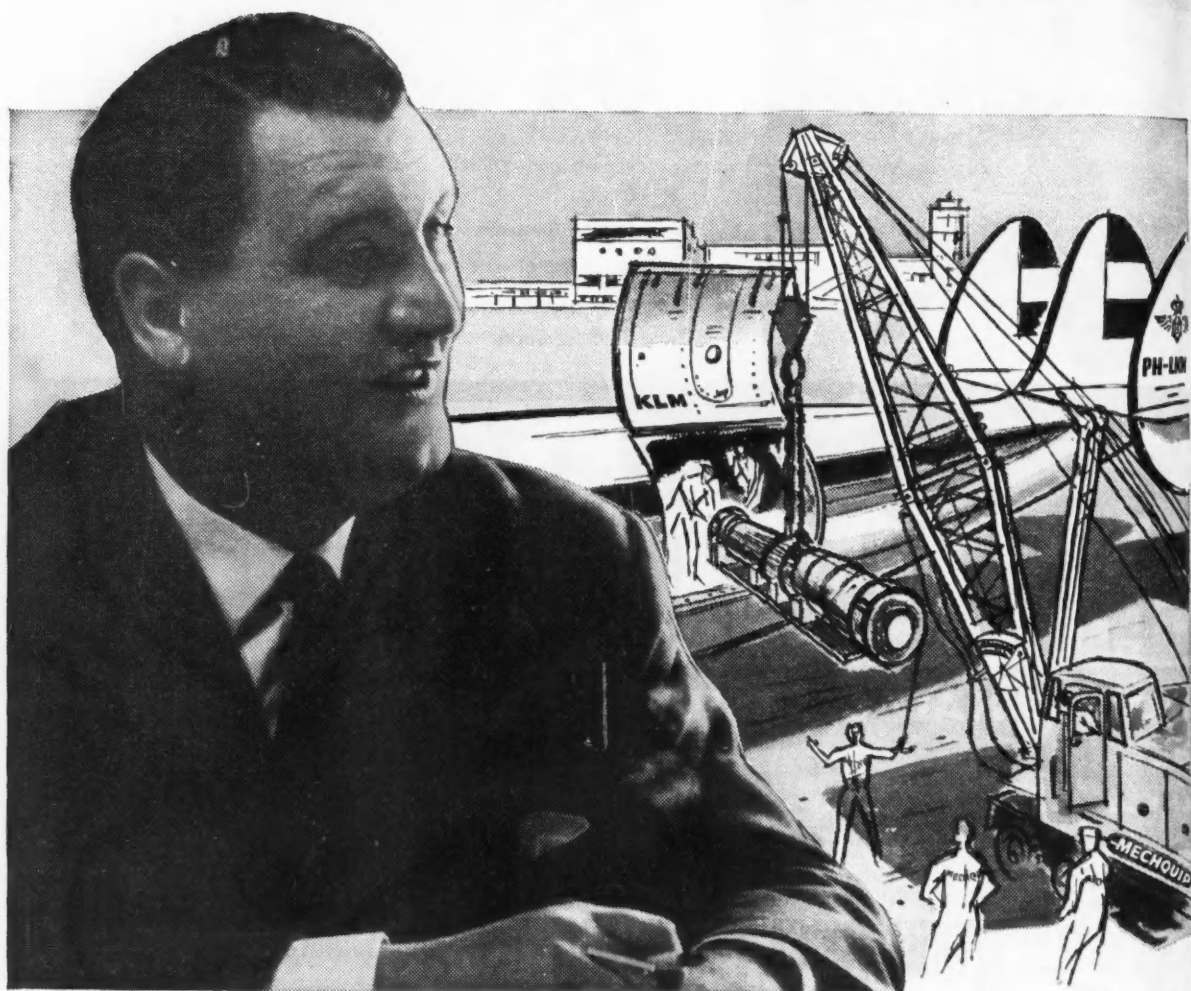
Prices  
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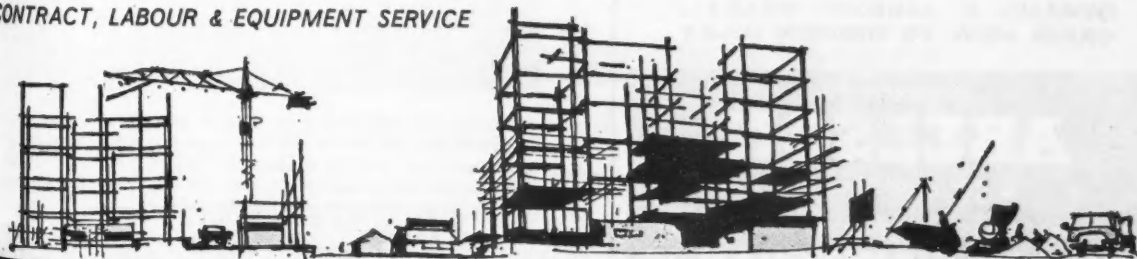
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LD CONTRACT, LABOUR & EQUIPMENT SERVICE



## Buildmaster Cranes

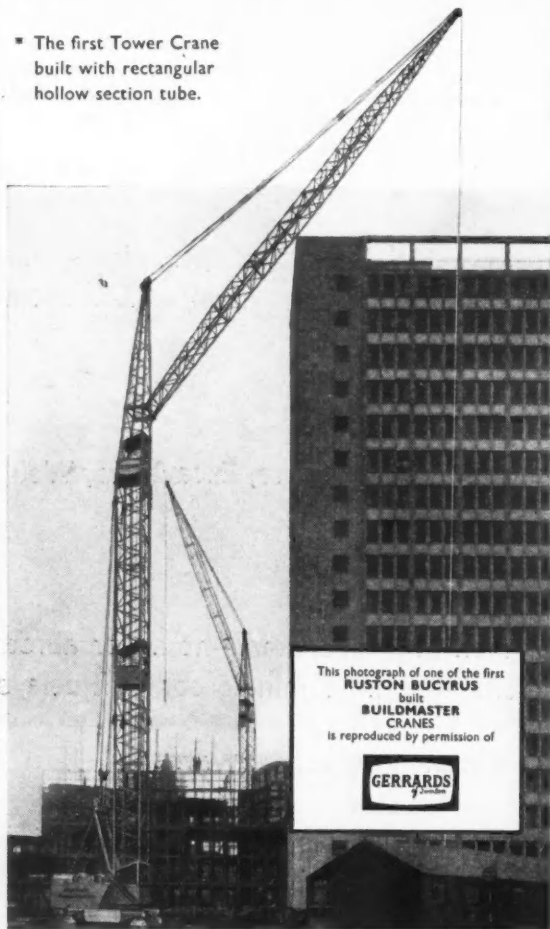
*—Still ahead*

British  
built  
by

**RUSTON -  
BUCYRUS**

THE CRANE OF ADVANCED DESIGN ★

- The first Tower Crane built with rectangular hollow section tube.



This photograph of one of the first  
**RUSTON BUCYRUS**  
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**BUILDMASTER**  
CRANES  
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Buildmaster Tower Cranes are being batch produced in the RUSTON-BUCYRUS works at Lincoln for delivery in the spring of 1960

**DEMAND IS ALREADY HEAVY—  
ORDER NOW TO MINIMISE DELAY**

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Prefabricated fir plywood sub-floors are featured in the transportable buildings manufactured by Swiftplan Ltd. of Middlesex. This company uses Canadian fir plywood structurally for prefabrication of floors and roofs in schools, office blocks, cottages and construction site buildings.

## fir plywood for trouble-free sub-floors

Smooth sub-floors of structural fir plywood stay permanently rigid free under tile, linoleum, carpet or hardwood. Low cost sheathing and underlay sheathing grades are obtainable in thicknesses from 1/2" to 1 1/2". Light, strong fir plywood panels cover 32 sq. ft. at a time without cutting or waste. All Canadian fir plywood is bonded with waterproof and boilproof phenolic glue. Ask your timber and plywood supplier about prices. For free technical data on structural applications of Canadian fir plywood write:

PLYWOOD MANUFACTURERS ASSOCIATION OF BRITISH COLUMBIA  
Wheatsheaf House, 4 Carmelite Street, London, E.C.4.

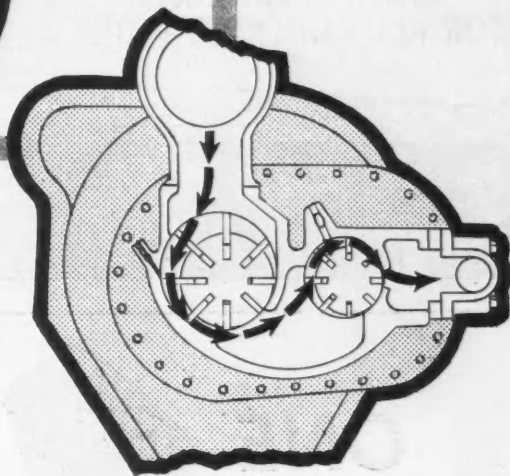
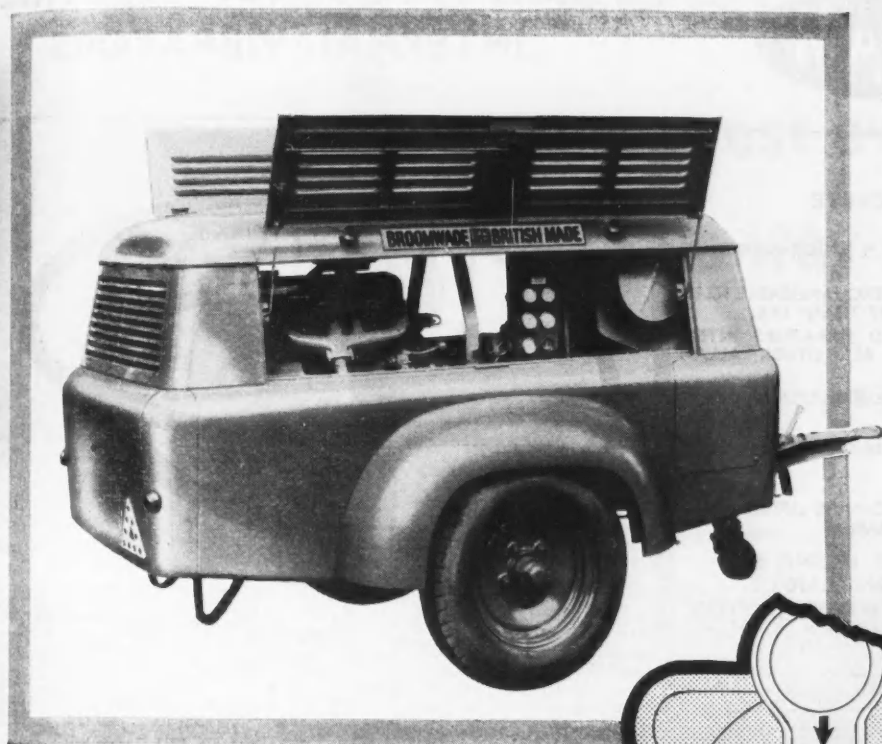
# CANADIAN DOUGLAS FIR PLYWOOD



Contractors Rush & Tompkins Ltd. put down 500,000 sq. ft. of removable fir plywood panels to give the new John Lewis & Co. Ltd. Store in London great flexibility in routing of under-floor electric and water services. Screw-fastened sub-floor panels give easy access to utilities and provide a perfectly smooth surface for carpeting and linoleum.

FIR PLYWOOD MARKED **PMBC EXTERIOR** HAS WATERPROOF GLUE

59-21



## Inside Information!

Illustrated is the "BROOMWADE" type WR120 Portable, two-stage, Rotary Air Compressor Plant and a cross-section of the Compressor unit.

The design of the compressor ensures that there is no violent change in the direction of air flow. The rotors are set in parallel and the air flows smoothly from the L.P. to the H.P. stage in an 'S' curve pattern as indicated in the cross-section.

Setting the rotors in parallel the two stages can be operated at different speeds, permitting each rotor to attain its most efficient peripheral speed in relation to diameter. The sliding vanes in the rotors are thus subjected to the required centrifugal force, ensuring a perfect seal and maximum compression—volumetric efficiency is over 90%.

Flexibility of speed between stages and drive from the engine to the L.P. rotor allows a running speed well within the engine's recommended speed range. The result is a well matched engine/compressor plant having a large horsepower reserve, ensuring long engine life.

"BROOMWADE" Rotary Plants are:—

**SMALLER in size. LIGHTER in weight. CHEAPER and EASIER to maintain.**

Plants available from 120—630 c.f.m.

For full details write for Publication No. 333 R.C.E.

# "BROOMWADE"

## Air Compressors & Pneumatic Tools

Your **BEST** Investment

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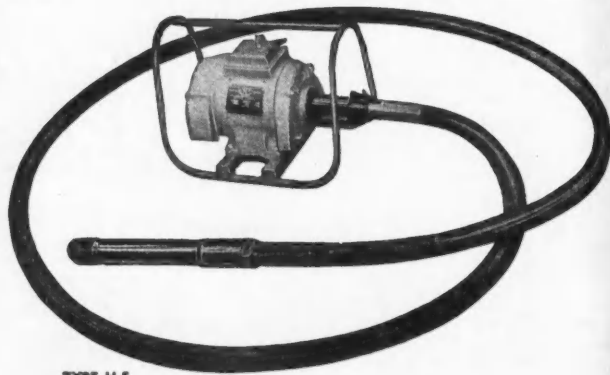
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STOOD AT ANY ANGLE  
**FOR ALL CONCRETE WORK**



TYPE H.F.

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For POWER MAJOR FORDSON and or NEW TYPE  
FORDSON MAJOR, DEXTA,  
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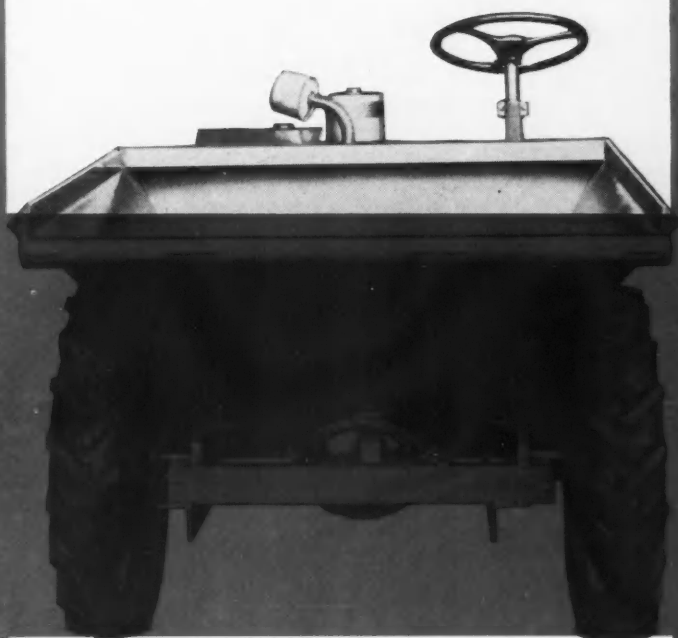
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Grams: STA-DRI, BRISTOL

**'SPRITE'**

**narrowest ever**

**this way**



**no  
increase  
this  
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**a new narrow  
dumper from**

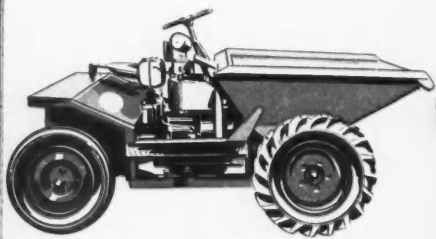
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**DIESEL DUMPER SPECIALISTS**  
THWAITES ENGINEERING CO. LTD . CUBBINGTON  
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gives you ruggedness and  
performance in narrow  
loading height for greater  
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36 inch LOADING HEIGHT



BIG CAPACITY SKIP



ONLY 49 1/2 INCHES WIDE



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## Thwaites 'SPRITE'

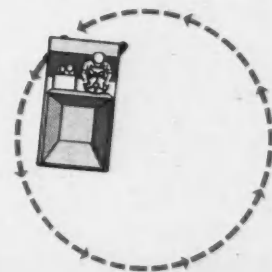


# tes 'SPRITE'

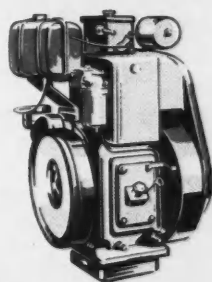
reliability of BIG dumper  
form without increasing  
manoeuvrability in con-



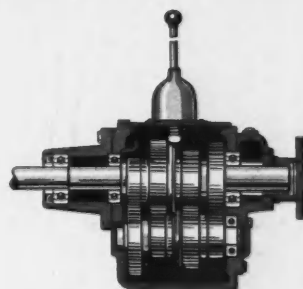
**CAPACITIES:** WATER LEVEL 13 cu ft  
MAX. LOAD 15 cwt



UNDER 7' 9" TURNING CIRCLE



PETTER AVA 1 ENGINE



3 SPEED GEAR BOX

the small dumper with the big capacity

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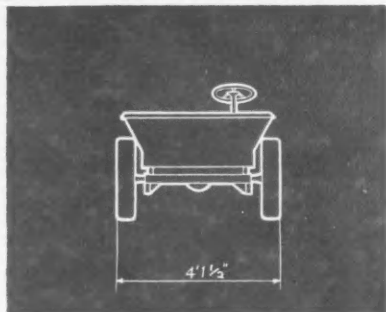
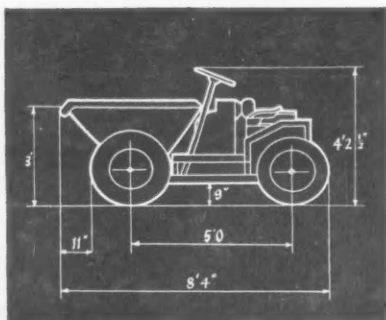


## 'SPRITE'



- ★ 13 cu ft capacity at 36" loading height coupled with small turning circle means more payload per day under most cramped conditions.
- ★ Heavy-duty constant-mesh gear box with 3 forward speeds and reverse gets you there quicker and saves you money.
- ★ Low centre of gravity plus fully floating (12") rear axle ensures stability over rough site conditions.
- ★ All controls situated on right hand side of driver ★ Heavy duty skip substantially reinforced for long life.

*on your site in 24 hours*



### SPECIFICATION

**CAPACITY** 15 cwt maximum safe load. Water level: 13 cu ft. Struck off: 15 cu. ft. Heaped up: 19. cu. ft. **SPEEDS** 1st Gear: 2/2½ m.p.h. 2nd Gear: 4/5 m.p.h. Top Gear: 9/12 m.p.h. Reverse: 2 m.p.h. **DIESEL ENGINE** Petter AVA 1 single cylinder air cooled Diesel Engine. 5/6 h.p. at 1,700 r.p.m. with Purolator lubricating oil filter, paper element air cleaner and protected fuel racks. **CLUTCH AND TRANSMISSION** Specially designed foot operated clutch having a Ferodo face of extra large contact area disengaging a totally enclosed slow running ¾" Renold roller chain with no jockey, from half-speed shaft of Engine to Gearbox. **GEARBOX** Heavy duty/3 speed constant mesh change-on-the-move Gearbox. Hypoid Axle with four star differential. **STEERING** Fully floating (12") centre pivoted steering Axle of robust design on Ackerman principle. **CHASSIS** 3" x 3" Rolled Steel Angle reinforced as necessary. **WHEELS (Driving)** Steel Pressings for 5 stud fixing. **WHEELS (Steering)** Steel Pressings for 3 stud fixing. **TYRES (Driving)** 6.00 x 16.4 ply Track grip. **TYRES (Steering)** 5.00 x 16.4 ply Ribbed. **BRAKES** Girling 10" x 1½" expanding brakes on driving wheels, foot and hand operated. **SKIP** Electrically welded ½" Heavy Steel plate substantially reinforced at lip and edge. **LOADING HEIGHT** 36". **TURNING RADIUS** Under 7' 9". **FUEL** Diesel. Tank capacity: 1½ gallons. **LUBRICATION** Gearbox, driving axle, engine and steering, oil bath; all other moving parts by grease points. **WEIGHT** 13½ cwt. unladen. **CONTROLS** Non-slip Clutch and brake pedals. Handbrake, Gear lever and Skip locking catch situated on right hand side of driver.

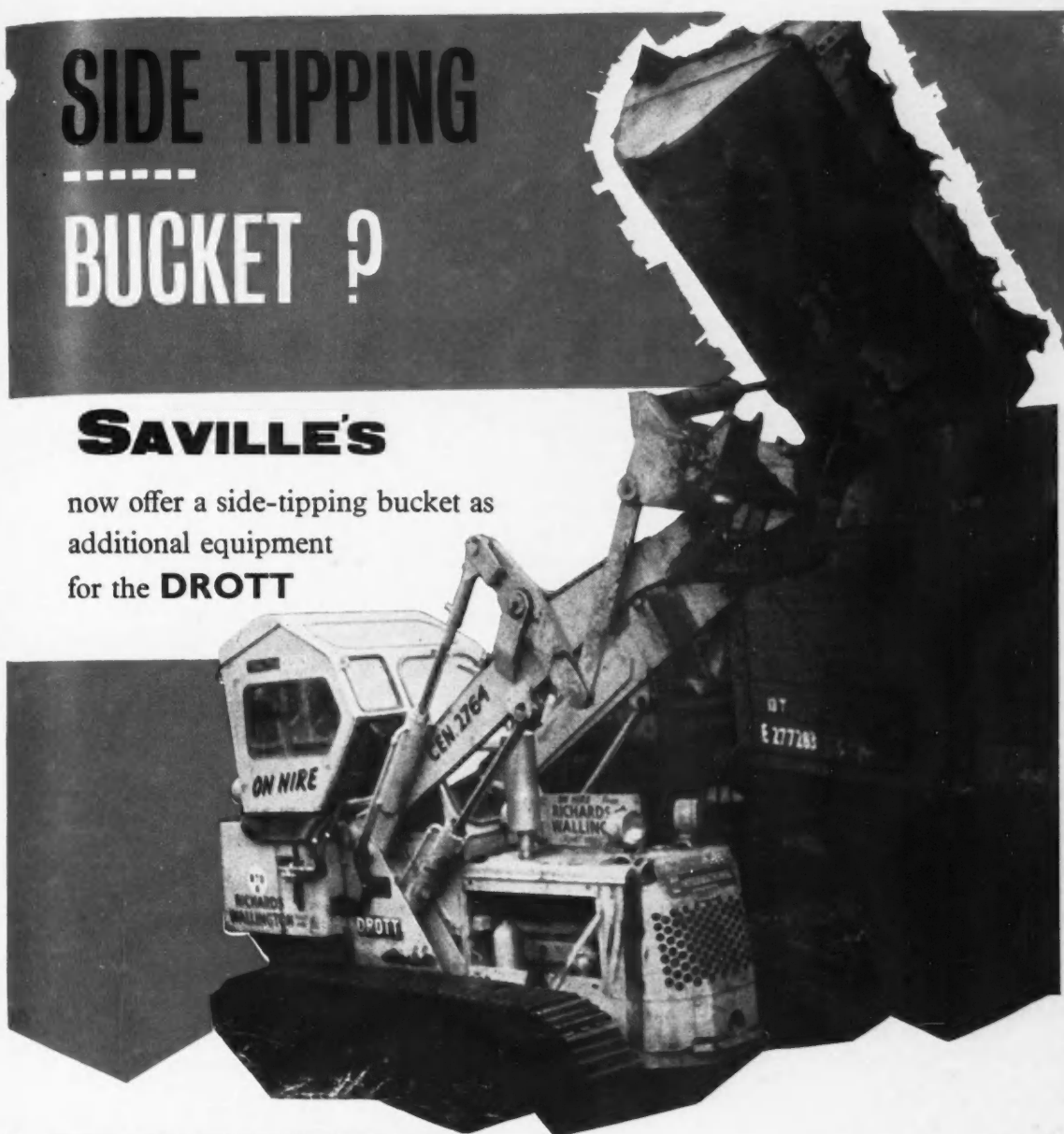
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# SIDE TIPPING ----- BUCKET ?

## SAVILLE'S

now offer a side-tipping bucket as additional equipment for the **DROTT**



### BUCKET CAPACITY

1 cubic yard 77" or 87" wide. Interchangeable with the Drott 4 in 1 bucket in a matter of minutes.

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**Ask for full details & demonstration**

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A Company of the LUMLEY-SAVILLE Organisation.

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# ***GET THE BIG SHOVEL!***



**International CONSTRUCTION**

**THE FINEST ON TYRES AND TRACKS**

INTERNATIONAL HARVESTER COMPANY OF GREAT BRITAIN LIMITED · HARVESTER HOUSE



# the 3 cubic yard



## INTERNATIONAL DROTT

### B-20K-3 OF COURSE

IT WILL PAY YOU TO HAVE one of these big British shovels, especially where there's a tight schedule to be met. You'll be glad of it for two big reasons. First, it incorporates all the proven Drott pioneered features which have established the name as number one in the loader industry. The new shovel also incorporates extra refinements such as adjustable automatic kick-out and a pin-mounted loader frame. Your second reason for being glad you've got this unit? This big Drott is teamed with the International BTD-20 with its six-speed full-reverse transmission that boosts production on any shuttle job. It's at work in seconds with real push-button starting, and the Rolls-Royce direct-injection engine is a real fuel-miser! Your International Construction Equipment Dealer will be glad to tell you more about this equipment. Why not call him? AND it's available with that very versatile International Drott 4-in-1 bucket . . . four big-capacity tools available at the flick of a lever: Bulldozer, Carry-Type Scraper, Shovel and Clamshell. There's another exclusive advantage with a 4-in-1, controlled bottom-dumping that lets you place the 3 cubic yard load more gently in light-duty trucks.

## EQUIPMENT



## International

CONSTRUCTION EQUIPMENT DEALERS IN GT BRITAIN AND N IRELAND

**JAMES BOWEN & SONS LTD**

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BRISTOL

259 CITY ROAD · LONDON EC1

# Smoothing the way...



...with  
**VÖGELE**

## SOIL STABILIZATION

It is the aim in any soil stabilization job to finish the road with an even and firm surface in one single pass. This target is realized to the full with the Vögele High-Duty One-Pass Soil Stabilizer. The machine cuts the ground to a depth of  $8\frac{1}{2}$  inches in a width of  $6\frac{1}{2}$  feet, blending it thoroughly with the binding agents to a high comprehensive strength.

### SPECIFICATIONS :

#### Overall Dimensions :

Length : 31' 2"  
Width : 8' 4"  
Height : 7' 4"  
Weight : 13 tons

#### Drive :

Tractor : Daimler-Benz Diesel Engine  
120 h.p.

#### Cutter-and Mixing

Rotors : Oil Engines, infinitely variable from 0-100 r.p.m.

#### Compacting-Beam :

Farymann Type DI 2 Diesel

#### Travelling and Working

Speeds : 12 stages from 2-155 yds/min.  
Working Width : 6' 8½"

#### Working Depth :

8½"

#### Height Regulation :

Cutter and Mixing

#### Screed and Compactor :

#### Spray Device :

Rotors : Hydraulic  
Mechanical  
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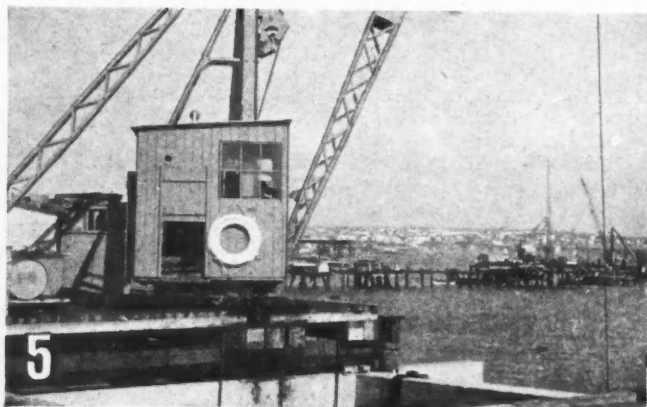
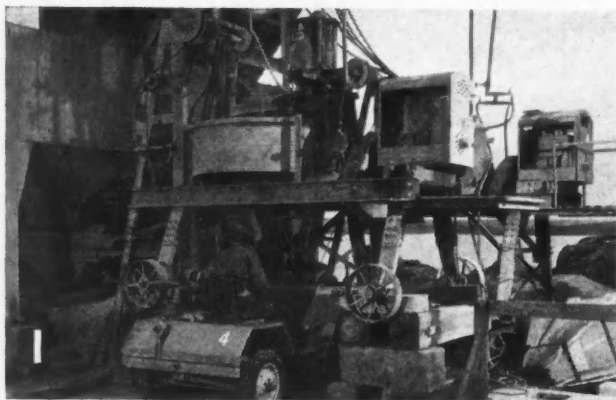
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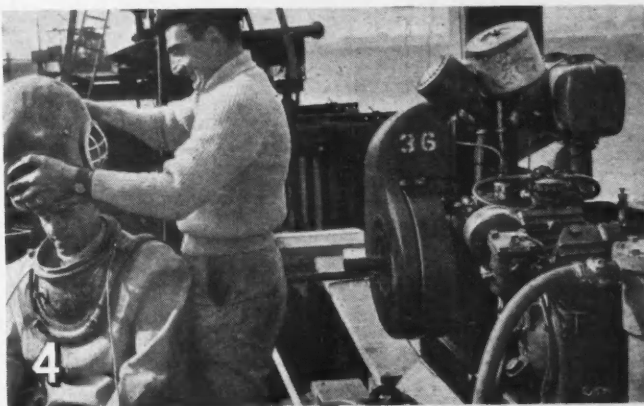
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The diving compressor (as also illustrated below) is powered by a PETTER AVA1.

7

The contractors' motor boats in the foreground are driven by PETTER PH2M engines.

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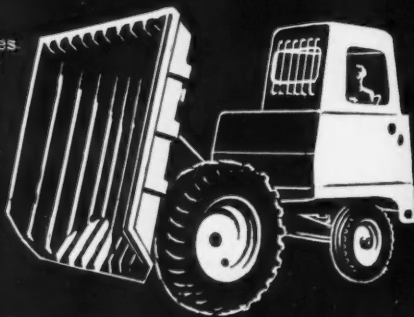


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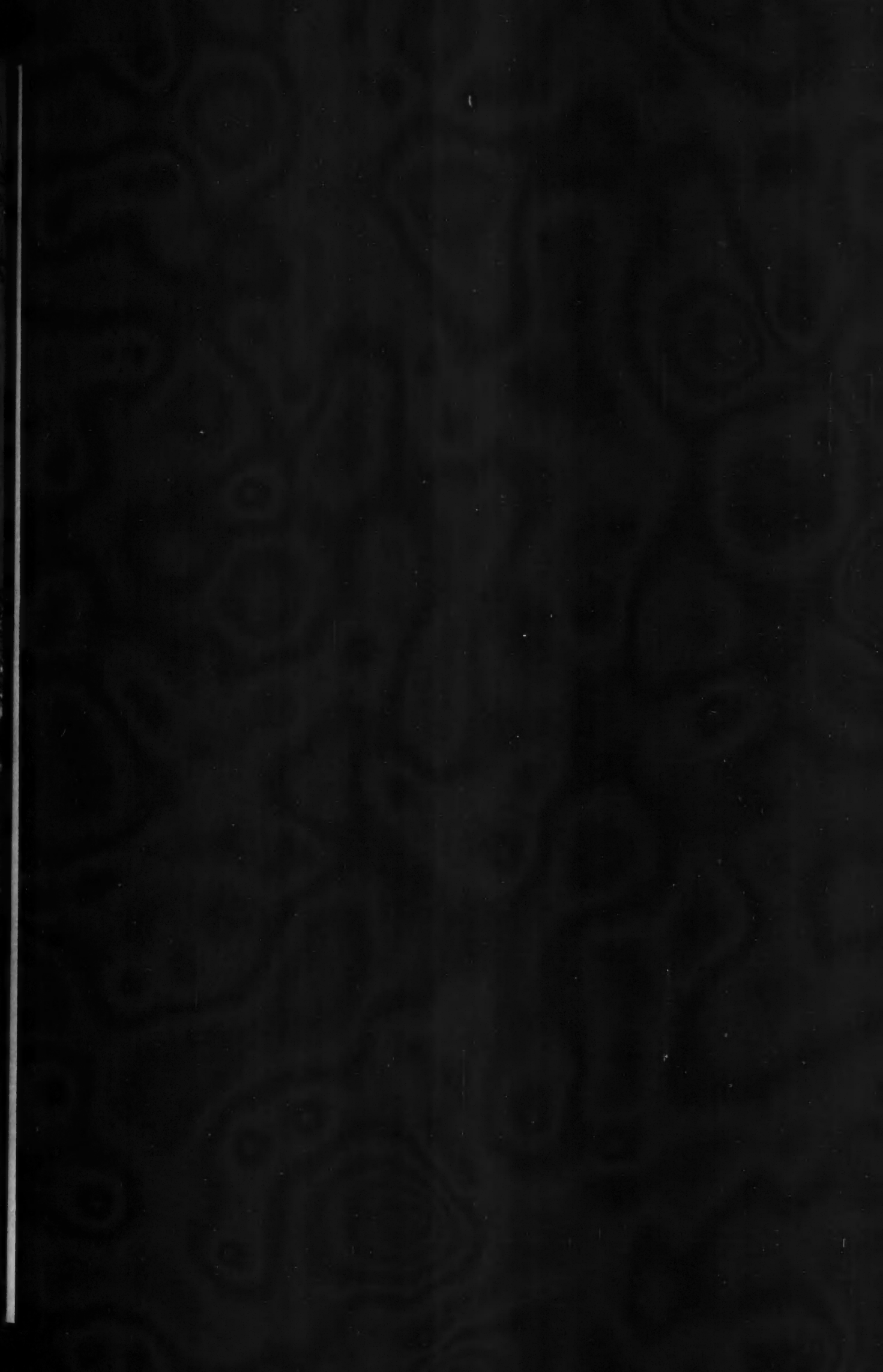
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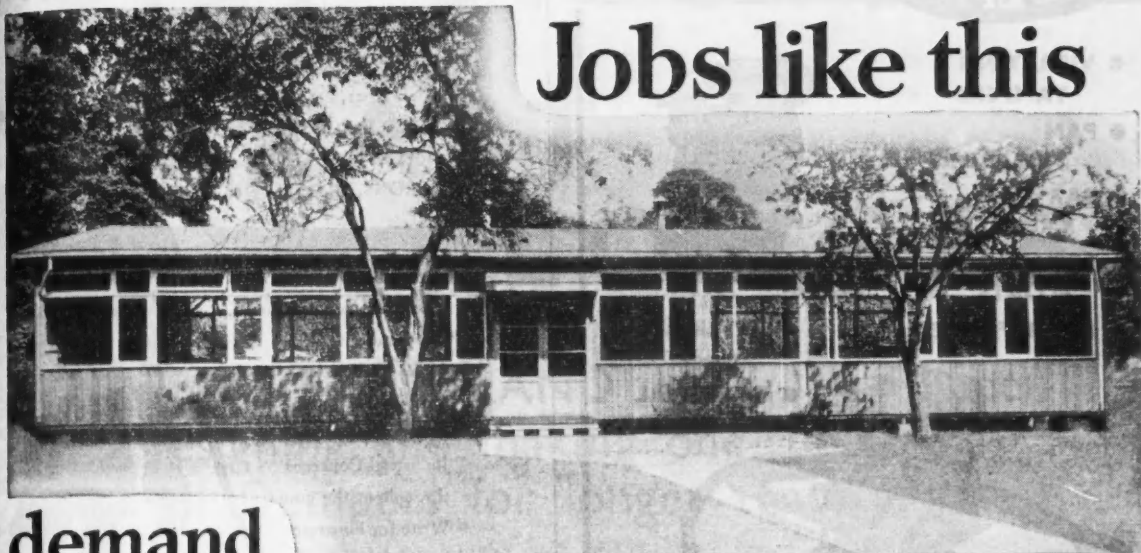








## CASE RECORDS FROM THORNS' FILES—2

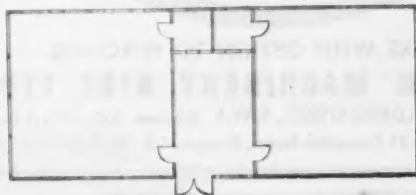


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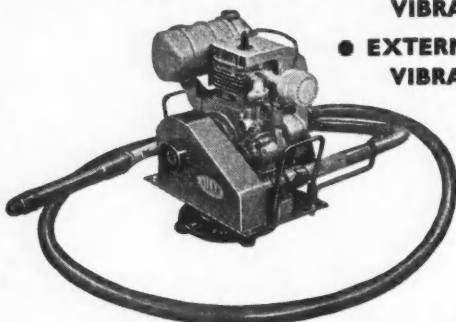
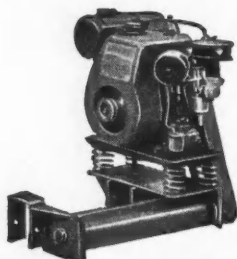
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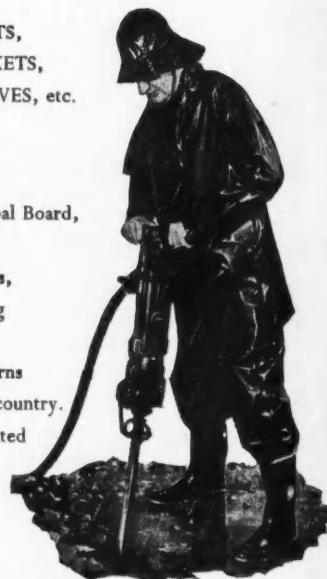
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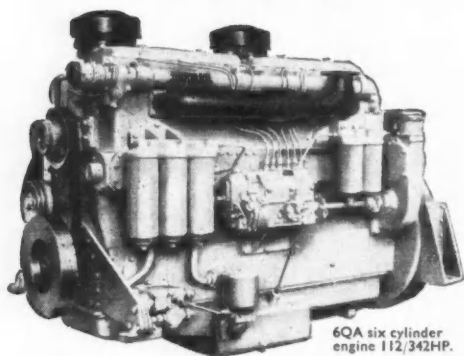
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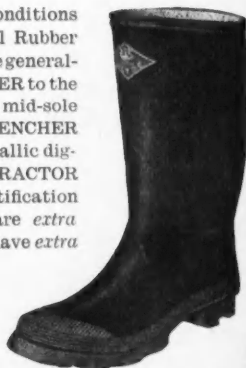
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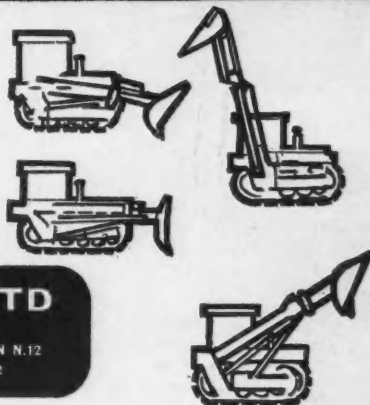
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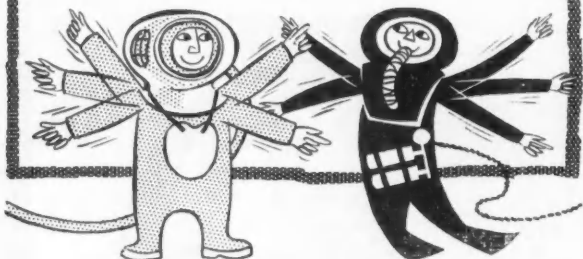
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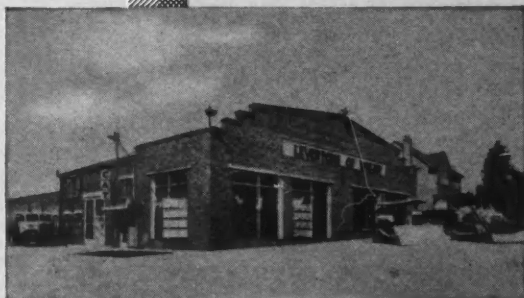
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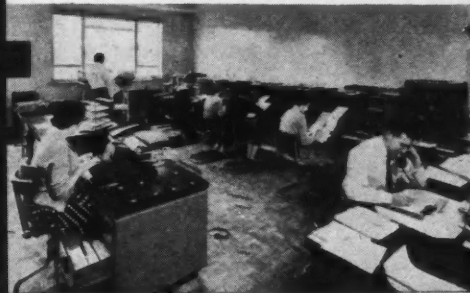
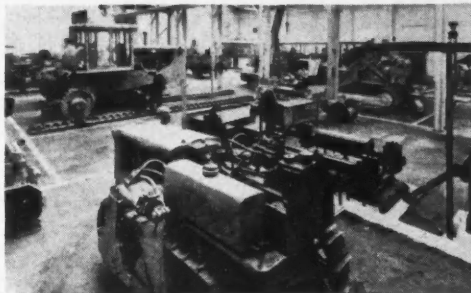
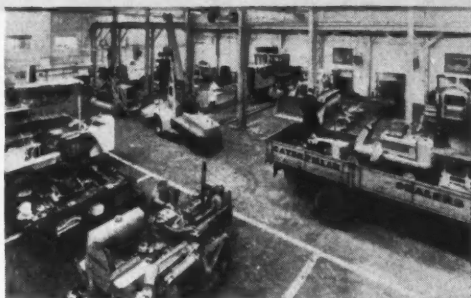
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18ft. x 15ft. ..	67 2 6	69 15 0	70 10 0
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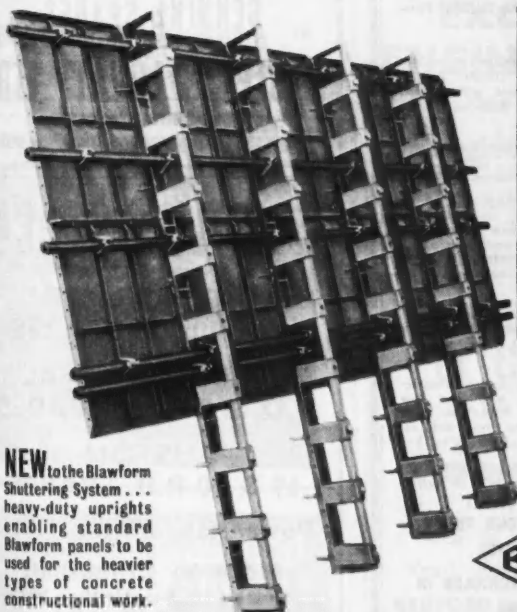
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 One Air Pumps Model D150 2-Tool MOBILE AIR COMPRESSOR, Serial No. 18538, powered by Dorman 4BK Diesel Engine, mounted on a 4-wheeled fast-towing chassis with over-run brakes. New in 1954. Completely overhauled 1958. Our Reference 60551. Price £350 net cash as lying—Plymouth area.  
 One Air Pumps Model D250 4-Tool COMPRESSOR, Serial No. 18434, mounted on 4-wheeled fast-towing chassis with over-run brakes, powered by Dorman 4DL III Diesel Engine, Bryce Berger starter. Our Reference 60601. Price £550 net cash as lying—Newport area.

One C.P.T. MOBILE COMPRESSOR, 2-Tool Size, powered by a Dorman 4DWD Diesel Engine, No. 36356, on four pneumatics, with hand parking brake. Our Reference 501331. Price £250 net cash as lying—Birmingham area.  
 One Lister 3/4-ton capacity Roughrider DUMPER, mounted on four wheels, powered by a Lister Diesel Engine. Machine new November, 1957. Our Reference PE 6/2. Price £195 net cash as lying—Plymouth area.  
 One I.C.B. EXCAVATOR, with Forward Ballast Block, Machine No. 2074, Ford Diesel Engine, complete with Backacter Bucket. Our Reference 60431. Price £625 net cash as lying—Bristol area.  
 One J.C.B. EXCAVATOR, Fordson Diesel Engine, Machine Serial No. 1885, complete with one Backacter Bucket. Machine fitted with Forward Ballast Block. Our Reference 60491. Price £750 net cash as lying—Newport area.  
 One Fordson Major Diesel TRACTOR, new September, 1956, Rear Hydraulic Lift and Linkage fitted with Front-mounted Horndraulic Loading Shovel with Bulldozer Blade. Our Reference 60151. Price £435 net cash as lying—Bristol area.  
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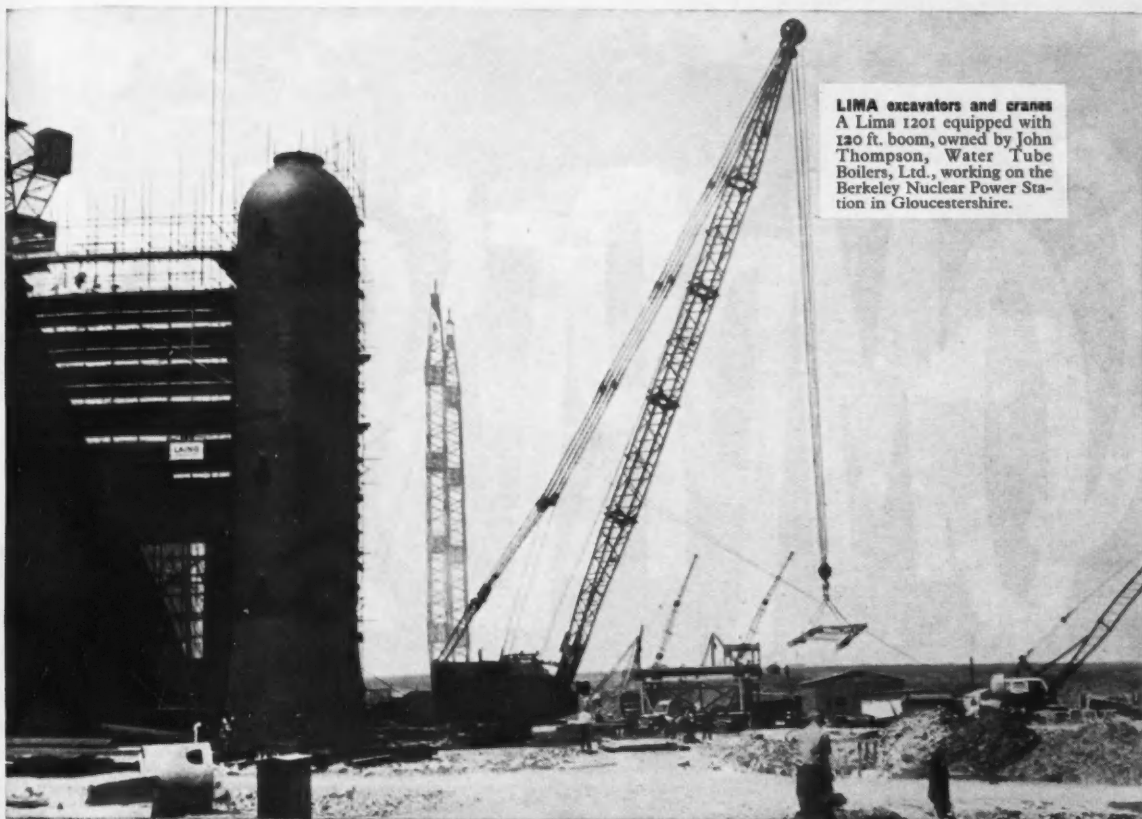
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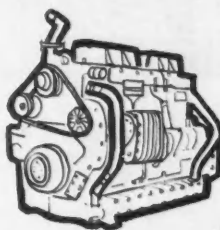
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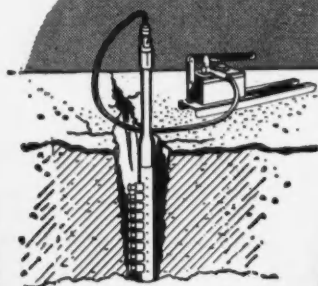
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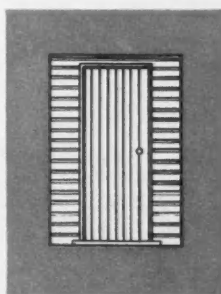
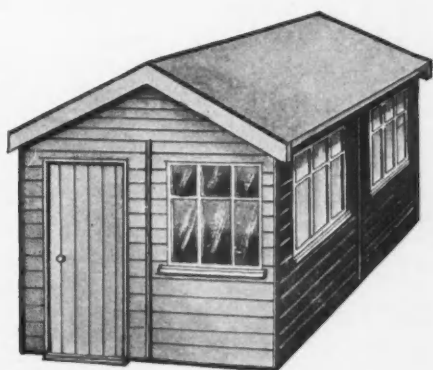
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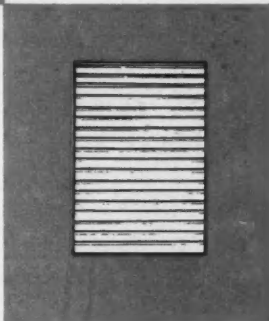
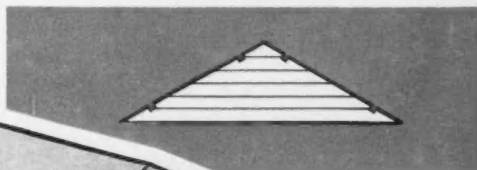
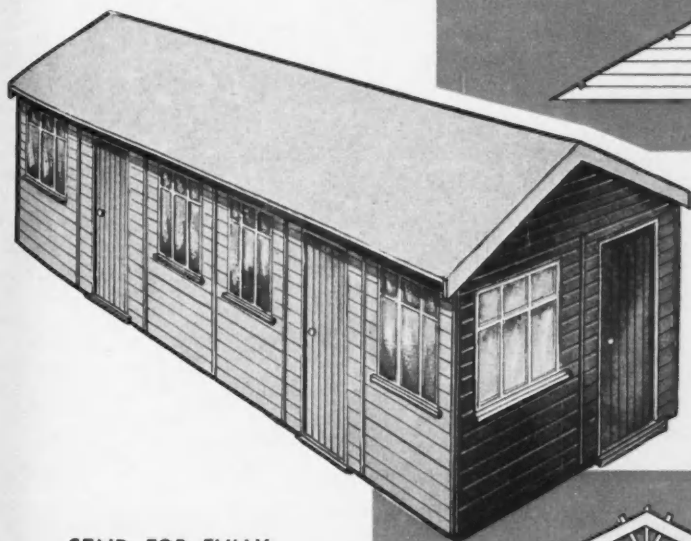
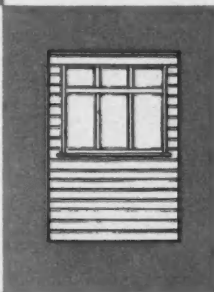
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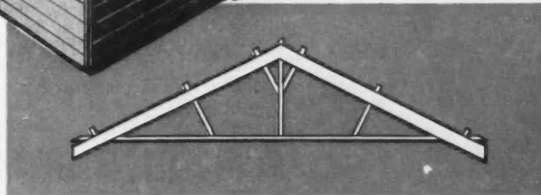


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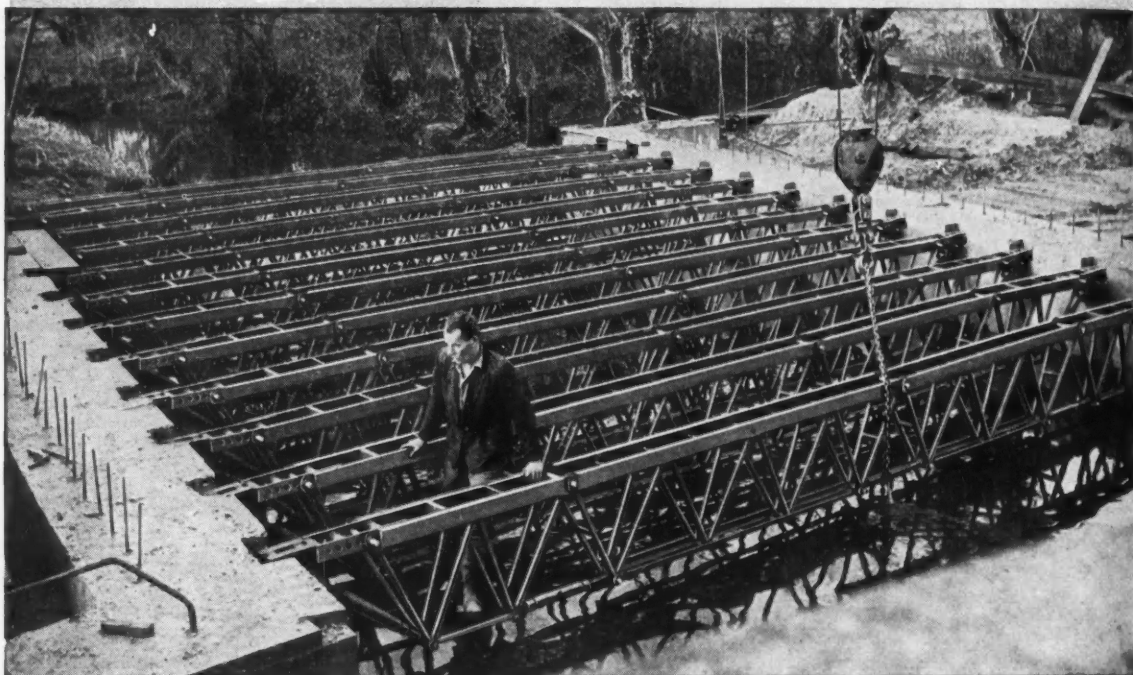
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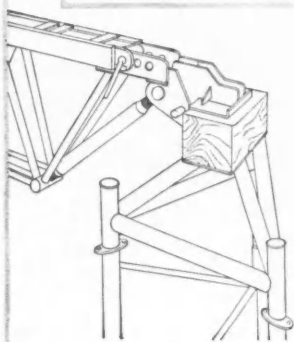
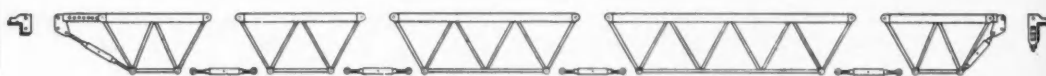
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# ★ Further Classified Plant Advertisements on pages 1025-1032

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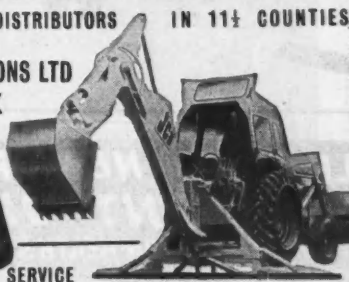
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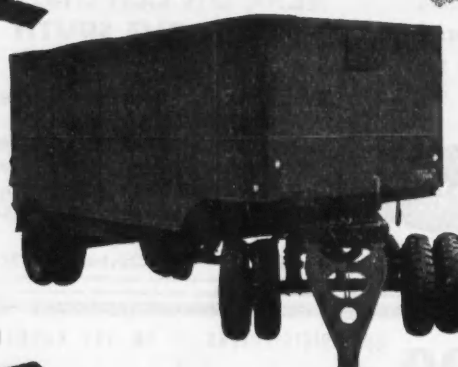
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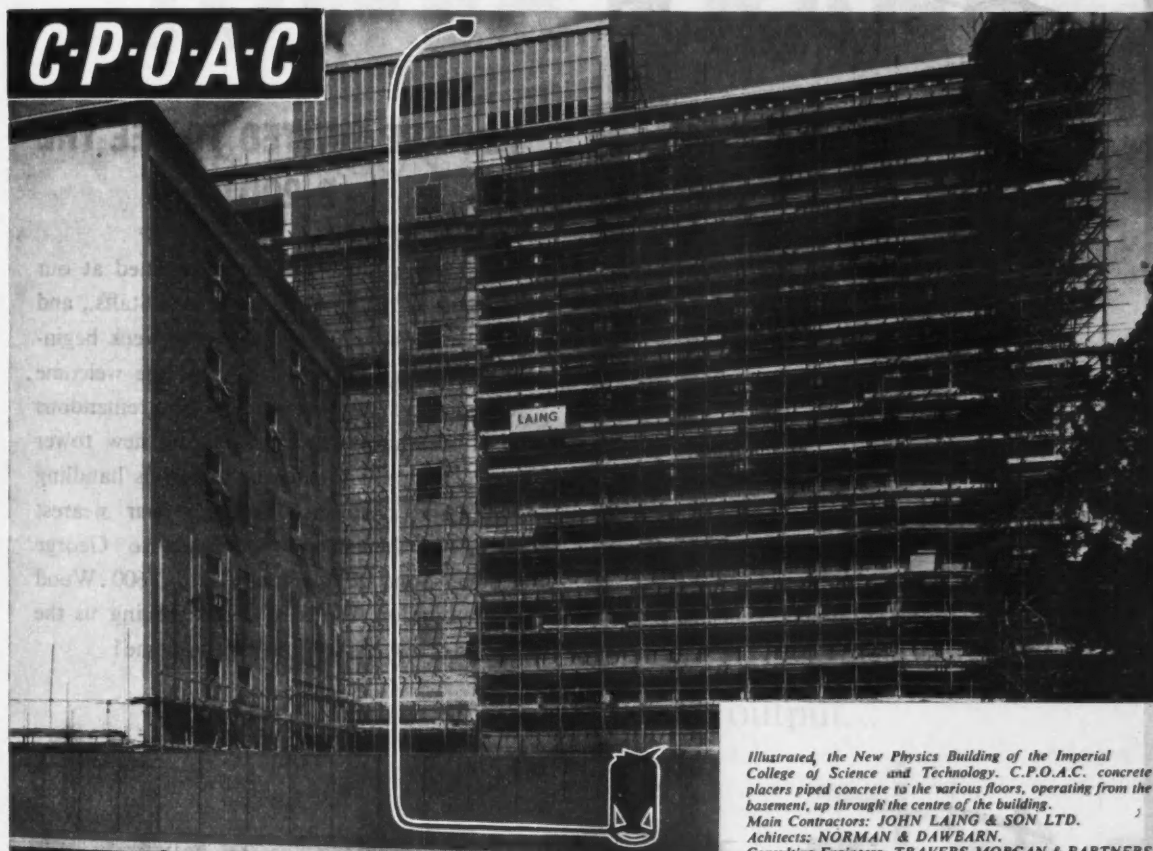
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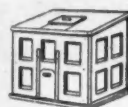
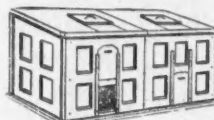


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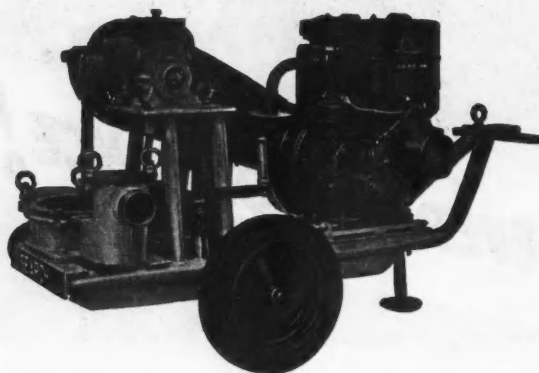
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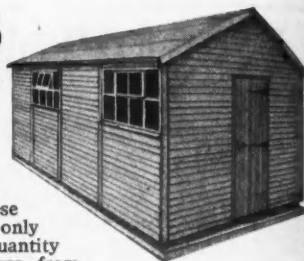
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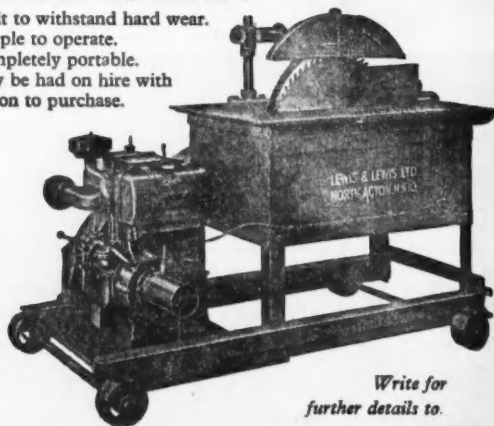
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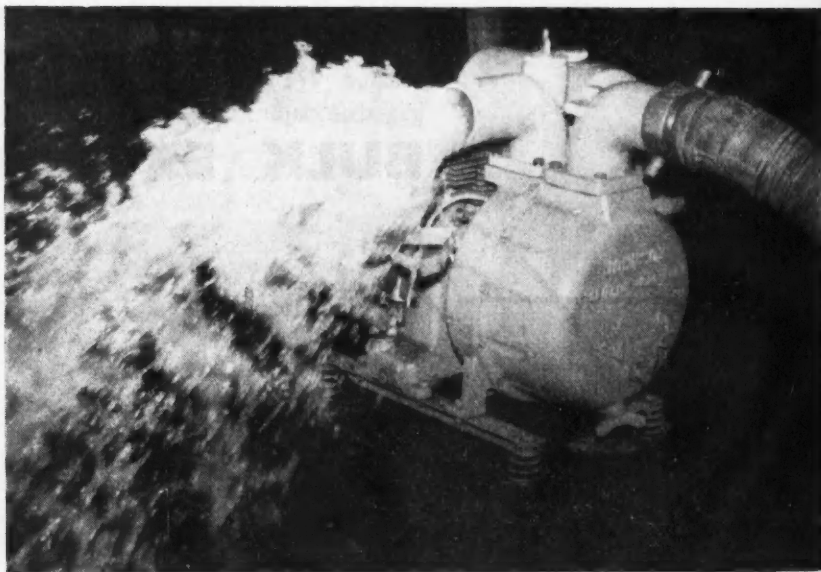
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**NEW****TO BUILDERS OF MULTI-STOREY CONTRACTS**

# ACE SKYMASTER

**MAN-CARRYING HOIST****Packaged Deal Installation**

The New ACE Skymaster Mk. II—man-carrying hoist—is designed for installation on multi-storey apartment contracts for the speedy conveyance of supervisory staff and workmen.

The new Skymaster is supplied as a **COMPLETE INSTALLATION**—a sound economic investment.

This low cost 'packaged deal' incorporates a **PREFABRICATED TUBULAR HOIST TOWER** consisting of panel frames and cross bracings of exclusive ACE design. Rapidly erected with a minimum amount of skill in a minimum amount of time.

The ACE Skymaster Mk. II is available **TO A LANDING HEIGHT OF WELL OVER 250 FT.**

**Specifications**

MK. II —1 ton/12 men: 100 f.p.m.

MK. IIa—1 ton/12 men: 230 f.p.m.

MK. III—2 ton/20 men: 300 f.p.m.

Full specification of the ACE "Skymaster" Mk. II will be gladly supplied on request.

Ask also for details of other products in the popular range of ACE Construction Equipment, the "LOADMASTER" Concrete Elevator, "COMET" Mobile Hoist, "HUMDINGER" Poker Vibrator, "DALLI" Handscraper, and "BOMAG" Vibrating Rollers.

**ACE SERVICE:** "Service to the customer", that's the key phrase of the ACE Servicing Department, unrivalled for its courtesy, efficiency and speed.

The photographs of the ACE Skymaster featured in this advertisement were taken by the kind permission and with the full co-operation of William Moss & Sons Ltd. at the Flyover House site, Gt. West Road, Middlesex.

**A. C. E. MACHINERY LTD**

PORDEN ROAD, BRIXTON, S.W.2  
Telegrams: AUSCON, TELEX, LONDON

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ACE 92



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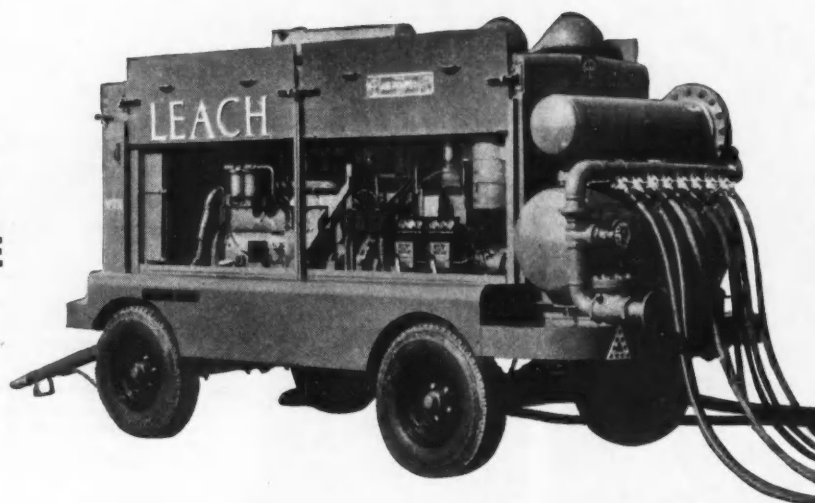
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31, BRUNSWICK STREET, LIVERPOOL 2. Central 4844

## HUBERT C. LEACH LTD.

"OFF THE SHELF" SERVICE FOR PNEUMATIC TOOLS AND EQUIPMENT

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**FOR  
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AIR PUMPS COMPRESSORS FROM 70 TO 650 C.F.M.

ARMSTRONG-WHITWORTH PNEUMATIC TOOLS AND ACCESSORIES

WRITE FOR DETAILS: HUBERT C. LEACH LTD., HIGH STREET, CHESHUNT, HERTS. Tel.: WALTHAM CROSS 25161 (5 LINES)

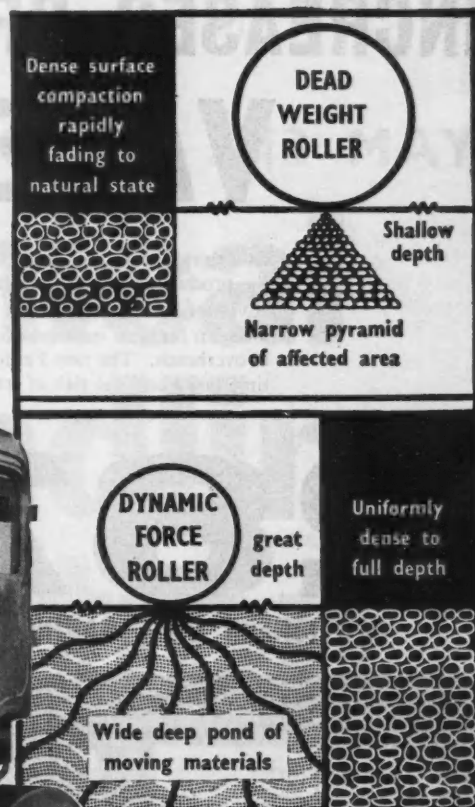
# Judge for yourself- **VIBROLL** BRITISH REGD. TRADE MARK *is tons better*



The Vibroll 42 RD above is the latest in the S & P range of vibrating rollers. Powered by an 18 B.H.P. twin cylinder, air-cooled diesel engine, it has rolls 42" wide by 42" diameter and power steering. The operator's cab is one of several optional extras.

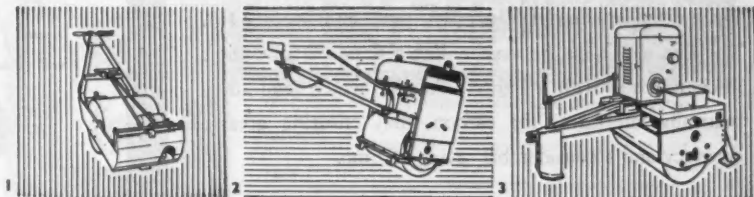
Other Vibroll dynamic force rollers range from the 11H trench model to the 72T trailer model and include those illustrated alongside.

1. Hand Propelled Roller 24H. 4 cwt. Roll 21" diameter by 24" wide.
2. Power-propelled Hand Guided Roller 28W. 6½ cwt. Roll 22½" diameter by 28" wide.
3. Trailer Roller 54T. 30 cwt. Roll 30" diameter by 54" wide.



Tons better because you get *deeper*, more uniform compaction of sand, gravel, ballast, asphalt, tarmacadam and dry mix concrete with a machine only a fraction of the weight of a dead-weight roller.

The diagrams above emphasise the basic advantage of the Vibroll dynamic force roller over the conventional dead-weight roller. Compaction carried out with a dead-weight roller decreases rapidly with depth; the vibrating roll of the Vibroll, however, creates a wide, deep volume of moving materials which ensures uniform compaction to great depth.



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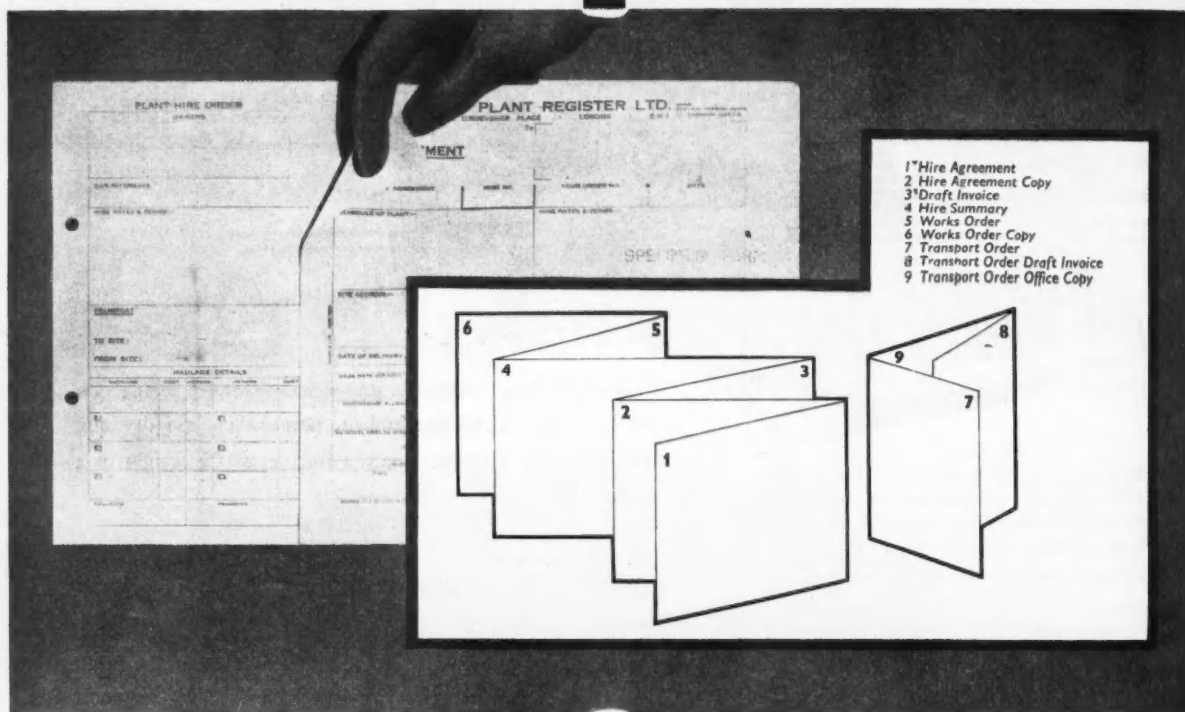
# INCREASED OFFICE EFFICIENCY AT VALES PLANT

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EARLS COURT 3-13 MAY

# mechanical handling exhibition

**THE  
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LARGEST  
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SAVING  
EQUIPMENT**

This will be the greatest-ever exhibition of equipment and machinery for saving time and effort. Exhibits in over half-a-million square feet of space will range from complete handling systems for large-scale factory layouts to aerial ropeways, electronic control equipment, cranes, conveyors, trucks and lifting tackle, with experts at hand to discuss your individual problems. Whether your organisation is large or small, a visit to this outstanding industrial event can result in the achievement of higher output — at reduced cost. The ticket below will admit you to the biggest exhibition of its kind the world has ever seen.

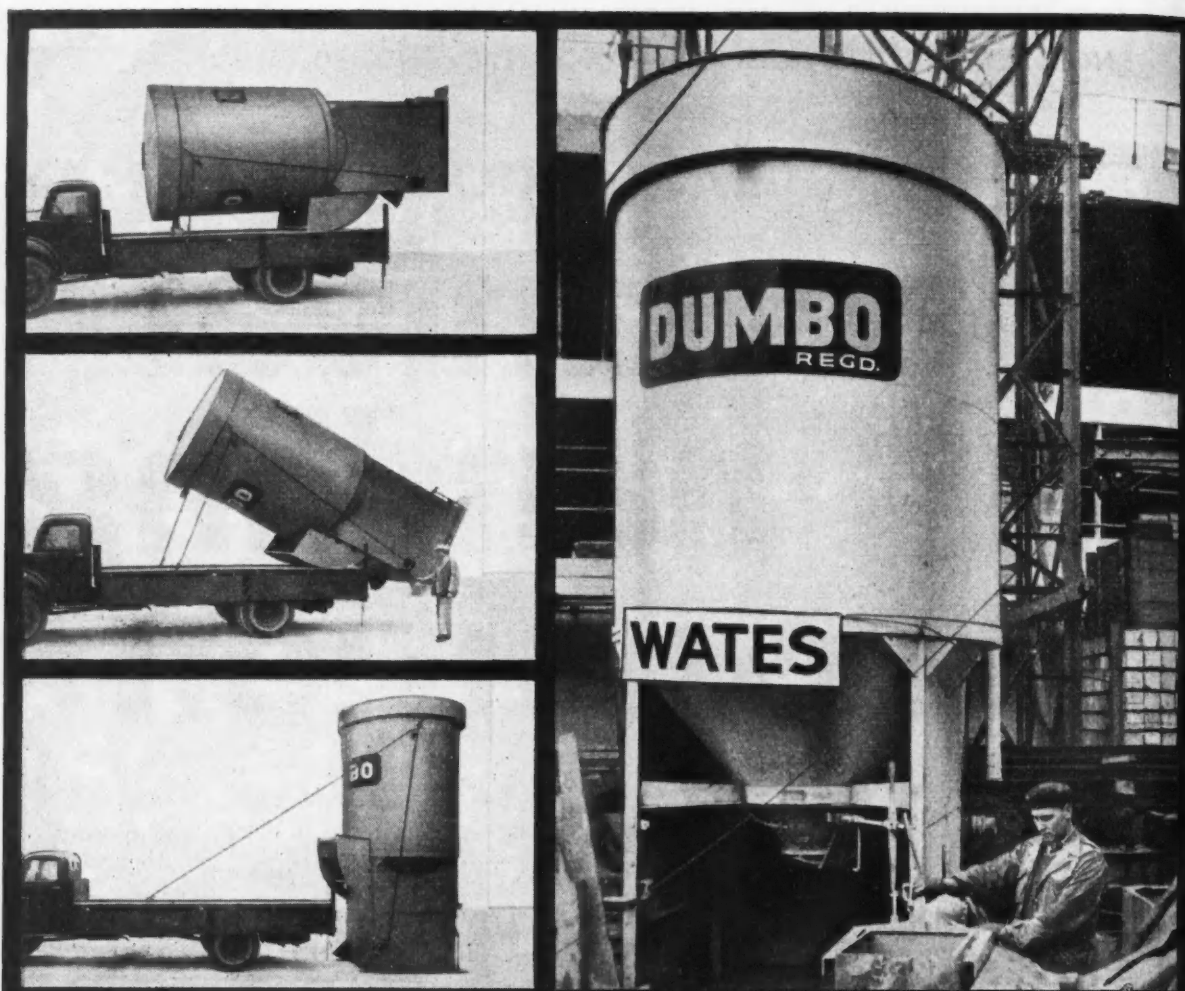
ORGANISED BY MECHANICAL HANDLING AN ILIFFE JOURNAL

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	<b>MECHANICAL HANDLING EXHIBITION</b> <b>EARLS COURT 3-13 MAY 1960</b> <b>DAILY 10 A.M. - 6 P.M. (except Sunday 8 May)</b> <b>admit one</b>
	<p><i>Not valid until the details below have been completed</i></p> <p>NAME <input type="text"/></p> <p>FIRM <input type="text"/></p> <p>ADDRESS <input type="text"/></p> <p><input type="text"/></p> <p><input type="text"/></p>

46A



Patent Numbers 764310 and 764311

Photograph by kind permission of Messrs. Wates Ltd.

# DUMBO

## SELF-ERECTING HOPPER

**for cement and other dry powders in bulk—  
offers all the advantages**

### Special Features

Automatic Weighing  
Simple Operation  
Simple Maintenance  
Robust all Steel Construction  
Long Life  
No condensation problems  
Can be loaded or off-loaded by one man in a matter of minutes

Minimum risk of damage when loading and off-loading

Filter of adequate area needing minimum maintenance

Access ladder and windshields are included in the price

With additional Dispenser can feed two Mixers

10-20-30 tons (Cement) capacities

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Johnstons & Paton Ltd., 8 Newton Place,  
GLASGOW, C.3. Telephone: DOUGLAS 8114

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BELFAST, 3. Telephone: BELFAST 745211/6

### EIRE

McNeill (Ireland) Ltd., Collinstown Cross,  
Cloghran, Co. Dublin.  
Telephone: DUBLIN 371601/2

CONTRACTS

**BOROUGH OF ILKESTON.**  
REPAINTING OF CORPORATION HOUSES.

TENDERS are invited for the REPAINTING of the FOLLOWING:  
193 Houses on the Kirk Hallam Estate.  
256 Houses on the Green Lane Estate.  
103 Houses on the Cotmanhay Estate.  
Specifications, Conditions of Contract and Forms of Tender may be obtained from the Borough Surveyor, Town Hall, Ilkeston.  
Tenders, in plain sealed envelopes, endorsed "Painting Tender" but not bearing any name or mark indicating the sender, must be received by me not later than 12 Noon on MONDAY, 7th March, 1960.  
The Borough Council does not bind itself to accept the lowest or any Tender.

J. YATES,  
Town Clerk.

**BOROUGH OF NEWBURY.**

TURNPIKE ROAD HOUSING SITE—PART 1—  
ROADS AND SEWERS.

TENDERS are invited for the CONSTRUCTION of approx. 6,250 sq. yd. of REINFORCED CONCRETE CARRIAGEWAY, together with Foul and Surface Water Sewers.  
Specification, Bill of Quantities and Form of Tender may be obtained from the Borough Surveyor, Municipal Buildings, Newbury, at whose Office Plans and General Conditions may be inspected.  
Sealed Tenders, endorsed "Turnpike Road Housing Site—Part 1," should be delivered to the undersigned not later than THURSDAY, 31st March, 1960.  
The Corporation does not bind itself to accept the lowest or any Tender.

LESLIE SOUTHERN,  
Town Clerk.

**BOROUGH OF NEWCASTLE-UNDER-LYME.**

PRIVATE STREET WORKS ACT, 1892.

TENDERS are invited for the MAKING-UP of REEVES AVENUE (Part), from LINDEN GROVE to CLOVERDALE ROAD, CROSS HEATH.  
The Work comprises approx. 1,250 sq. yd. of Carriageway Excavation, Foundation, 380 sq. yd. of Two-coated Macadam, the Relaying of 350 lin. yd. of Kerb and ancillary Works.  
Plans may be inspected and Tender documents obtained at the office of the Borough Engineer and Surveyor, Lancaster Building, High Street, Newcastle, Staffs.  
Tender Forms, in duplicate, and Bills of Quantities must be returned to me not later than 12 Noon on FRIDAY, 11th March, 1960, in a plain sealed envelope endorsed "Tender—Private Street Works, Cross Heath."

C. J. MORTON,  
Town Clerk.

**CITY OF LIVERPOOL.**  
WATER DEPARTMENT.

TRYWERNY DAM AND ANCILLARY WORKS.

TENDERS are invited for the CONSTRUCTION, in the TRYWERNY VALLEY, MERIONETHSHIRE, North Wales, for EARTH DAM some 150ft. high and containing some 3 million cu. yd. of materials, together with Tunnels, Concrete Structures and ancillary works.  
Documents from Messrs. BINNIE, DEACON AND GURLEY, Artillery House, Artillery Row, Westminster, S.W.1, between 1st March and 1st April, 1960. Deposit £5, payable City Treasurer, Liverpool.  
Tenders returnable by Noon, 16th May, 1960. (J.6045.)

THOMAS ALKER,  
Town Clerk.

**URBAN DISTRICT OF BROWNHILLS.**

ENGINEER AND SURVEYOR'S DEPARTMENT.

ANNUAL SUPPLIES (HOUSING CAPITAL).

TENDERS are invited for the SUPPLY and DELIVERY of the FOLLOWING ITEMS for the year ending 31st March, 1961:—  
(1) Fireplaces and Ranges.  
(2) Sanitary Goods, including Baths, Lavatory Basins, W.C.s (complete) and Sinks.  
(3) Ironmongery.  
(4) Cupboards and Dressers (to B.S.S.).  
(5) Thermoplastic Floor Tiles (Supply and Fix).  
(6) Sundry Items, including Rails, Rainwater Goods, Plasterboard, etc.  
Schedules may be obtained from Mr. CHARLES H. HUNT, Engineer and Surveyor, Coombe House, Brownhills, Staffs., and Tenders must be returned to him, in a plain sealed envelope, endorsed "Tender for Supplies (Housing Capital)," not later than FRIDAY, 18th March, 1960.

NORMAN WAINE,  
Clerk of the Council.

**URBAN DISTRICT OF BROWNHILLS.**

ENGINEER AND SURVEYOR'S DEPARTMENT.

ANNUAL SUPPLIES.

TENDERS are invited by the Urban District for the SUPPLY of the FOLLOWING MATERIALS and WORK for the year ending 31st March, 1961:—  
(1) Granite Chippings.  
(2) Tarrad and Bituminous Granite.  
(3) Tarrad and Bituminous Limestone.  
(4) Brick Hardcore.  
(5) Fine Cold Asphalt.  
(6) Tar Compound.  
(7) Portland Cement.  
(8) Sand and Washed Gravel.  
(9) Ashes and Red Shale.  
(10) Granite Concrete Kerbs, Flags and Back Edging.  
(11) Concrete Pipes, Gullies and Manholes.  
(12) Stoneware Pipes and Gullies.  
(13) Supplying and Laying Macadam by Machine.  
(14) C.I. Manhole Covers and Frames.  
(15) C.I. Road Gully Grates and Frames.  
(16) Kerbing, Paving and incidental works (Labour only).  
Tender Forms may be obtained from Mr. CHARLES H. HUNT, A.M.I.Mun.E., Engineer and Surveyor, Coombe House, Brownhills, near Walsall, Staffs., and should be returned to him in a plain sealed envelope, endorsed "Tender for Annual Supplies," to reach him not later than FRIDAY, 18th March, 1960.

NORMAN WAINE,  
Clerk of the Council.

Council Offices,  
Brownhills, Staffs.  
10th February, 1960.

CONTRACTS

**BUCKS. COUNTY COUNCIL.**

PRIVATE STREET WORKS.

ALMOND ROAD, BURNHAM.

TENDERS are invited for the MAKING-UP of the ABOVE STREET. Specification, Form of Tender and Contract and Bill of Quantities may be obtained from the County Surveyor, County Offices, Aylesbury.  
Applications must be accompanied by a remittance for £2, which will be refunded on receipt of a bona-fide Tender.  
Sealed Tenders must be delivered to the undersigned by MONDAY, 7th March, 1960, in the envelope provided, endorsed "Private Street Works," but not bearing any name or mark indicating the sender.  
The Council do not bind themselves to accept the lowest or any Tender.

R. E. MILLARD,  
Clerk of the Bucks. County Council.  
County Hall,  
Aylesbury.

**BOROUGH OF BASINGSTOKE.**

ST. PETER'S ROAD DISTRICT FOOTPATHS AND LANDSCAPING.

TENDERS are invited for the CONSTRUCTION of approx. 1,435 sq. yd. of PRECAST PAVING, 1,330 sq. yd. of TARMACADAM PAVING, and the LANDSCAPING and GRASS SEEDING of 3,660 sq. yd. of VERGE and OPEN SPACES, together with auxiliary Works.

Specification, Bill of Quantities and Form of Tender may be obtained from the Borough Surveyor, Municipal Buildings, Basingstoke, on payment of a £2 2s. deposit, which will be refunded upon receipt of a bona-fide Tender not subsequently withdrawn.

Tenders must be delivered to the undersigned in a plain sealed envelope endorsed "Tender for Footpath Construction and Landscaping—St. Peter's Road," not later than MONDAY, 14th March, 1960.  
The Council do not bind themselves to accept the lowest or any Tender.

L. WOMERSLEY,  
Town Clerk.

**CITY OF CARDIFF.**

FIXED-PRICE TENDERS are invited for an Annual Contract for TRIAL BORINGS and SOIL REPORTS, 1960-61.

Conditions of Tender, Specification, Bills of Quantities may be obtained from the City Surveyor, City Hall, Cardiff, to whom application should be made, accompanied by a deposit of the sum of £2 2s. Cheques should be made payable to the Cardiff Corporation and crossed "Not Negotiable and Co."

Tenders will not be considered unless enclosed in a plain sealed envelope endorsed "Tender for Trial Borings," addressed to the undersigned at the City Hall, Cardiff, and sent by Registered Post so as to be received not later than FRIDAY, 11th March, 1960.

The envelope must not bear the name of, or any mark indicating the identity of the tenderer.  
The Council does not bind itself to accept the lowest or any Tender.

S. TAPPER-JONES,  
Town Clerk.

City Hall,  
Cardiff.  
February, 1960.

**CITY OF CARDIFF.**

LLANEDEYRN ROAD IMPROVEMENT.

FIXED-PRICE TENDERS are invited for LLANEDEYRN ROAD IMPROVEMENT, comprising approx. 8,000 sq. yd. of Carriageway, 500 yd. of 39in. and 12in. dia. S.W. Sewers, and ancillary Works.

Conditions of Tender, Specification, Bills of Quantities and Drawings may be obtained from the City Surveyor, to whom application should be made, accompanied by a deposit of the sum of £2 2s. Cheques should be made payable to the Cardiff Corporation and crossed "Not Negotiable and Co."

The deposit will be refunded on receipt of a bona-fide Tender or the return of the Contract documents by the closing date.  
Tenders will not be considered unless enclosed in a plain sealed envelope endorsed "Tenders for Llanedeyrn Road Improvement," addressed to the undersigned at the City Hall, Cardiff, and sent by Registered Post so as to be received not later than MONDAY, 14th March, 1960.

The envelope must not bear the name of, or any mark indicating the identity of the tenderer.  
The Council does not bind itself to accept the lowest or any Tender.

S. TAPPER-JONES,  
Town Clerk.

City Hall,  
Cardiff.  
February, 1960.

**CITY OF CHESTER.**

TENDERS are invited for the SUPPLY and DELIVERY of the FOLLOWING MATERIALS for the 12 months ending 31st March, 1961:—

- (1) Limestone and Granite Chippings.
- (2) Limestone and Gravel Aggregate.
- (3) Concrete Kerbs and Concrete Flags.
- (4) Sand.
- (5) Refined Tar and Bitumen Emulsion.
- (6) Bituminous Macadam and Tarmacadam.

Specifications and Forms of Tender may be obtained from the City Engineer and Surveyor, 49 Northgate Street, Chester. Tenders, in sealed envelopes endorsed "Tender for..." must reach the TOWN CLERK, Town Hall, Chester, not later than THURSDAY, 3rd March, 1960.

The Corporation does not bind itself to accept the lowest or any Tender and reserves the right to divide one or more of the Contracts.

**NEWCASTLE AND GATESHEAD JOINT FIRE SERVICE COMMITTEE.**

The Committee are prepared to receive TENDERS for the EXECUTION of the UNDERMENTIONED WORKS, the NEW DIVISIONAL FIRE STATION proposed to be ERECTED IN DRYDEN ROAD, Gateshead:—

- (1) Heating, Hot and Cold Water Services and Ventilating Installations.
- (2) Electrical Installation.

Drawings, Specifications and Forms of Tender may be obtained on application, in writing, to the City Architect, 18 Cloth Market, Newcastle upon Tyne, 1, where Conditions of Contract may be seen. Contractors must state in their application the work for which they desire to Tender. Sealed Tenders must reach the City Architect not later than 10 a.m. on MONDAY, 11th April, 1960.

No Tender will be received except in the official envelope provided, which must not bear any name or mark indicating the sender.  
The Committee do not bind themselves to accept the lowest or any Tender.

JOHN ATKINSON,  
Town Clerk.

Town Hall,  
Newcastle upon Tyne, 1.  
15th February, 1960.

CONTRACTS

**COUNTY OF THE BOROUGH OF CARMARTHEN.**

BRONWYDD ROAD SEWERAGE SCHEME.

TENDERS are invited for the CONSTRUCTION of a SMALL PUMPING STATION, together with the Laying of approx. 4,500 lin. yd. of 6in., 9in., 12in. and 15in. dia. Concrete Pipes and 860 lin. yd. of 9in., 12in., 15in. and 18in. dia. Steel Pipes laid above ground on Concrete Piers; also approx. 550 lin. yd. of 4in. dia. C.I. Rising Main.

Contract documents may be obtained from the Council's Consulting Engineers, MESSRS. THOMAS & MORGAN AND PARTNERS, 23 Gellwagat Road, Pontypridd, on deposit of Five Guineas, to be refunded on receipt of a bona-fide Tender not subsequently withdrawn.

Plans may be inspected at the offices of the Consulting Engineer or those of the Borough Engineer at any time during normal office hours.

Tenders, in plain sealed envelope endorsed "Bronwydd Sewerage Scheme," to be delivered to the undersigned not later than Noon on MONDAY, 28th March, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

D. MYRDDIN THOMAS,  
Clerk to the Council.

Borough Council Office,  
Carmarthen.

**BOROUGH OF ECCLES.**

SURFACE DRESSING.

The Eccles Corporation invite TENDERS for SURFACE DRESSING with HOT TAR and CHIPPINGS to Various Streets in the Borough, a total area of approx. 51,823 sq. yd.

General Conditions, Description, Specification and Form of Tender may be obtained from the Borough Engineer and Surveyor, Town Hall Annex, Irwell Place, Eccles.

Tenders, in plain sealed envelope endorsed "Tender for Surface Dressing," must reach the undersigned not later than 10 a.m. on MONDAY, 14th March, 1960.

NORMAN MITCHELL,  
Town Clerk.

Town Hall,  
Eccles.  
8th February, 1960.

**BOROUGH OF PUDSEY.**

SMALEWELL SEWAGE DISPOSAL WORKS RECONSTRUCTION.

TENDERS are invited for the CONSTRUCTION in REINFORCED CONCRETE of AERATION TANKS, PRIMARY and FINAL SETTLING TANKS and other incidental Works.

Specifications, Bills of Quantities and Forms of Tender obtained from the office of the Borough Surveyor, Town Hall, Pudsey, on the payment of a deposit of £5. Sealed Tenders, which sum will be returned on receipt of a bona-fide Tender.

The successful tenderer will be required to enter into a Bond, a copy of which may be inspected at the office of the Town Clerk, Town Hall, Pudsey, during normal office hours.

Tenders must be delivered to the undersigned not later than 9 a.m. on WEDNESDAY, 16th March, 1960, and should be in a plain sealed envelope marked "Tender—Smalewell Sewage Works."

The Corporation do not bind themselves to accept the lowest or any Tender.

W. RICHARD CRUSE,  
Town Clerk.

Town Hall,  
Pudsey.

**BOROUGH OF MALDON.**

HALL ROAD, HEYBRIDGE—RECONSTRUCTION.

TENDERS are invited for CARRYING OUT the RECONSTRUCTION of 300YD. of ROADWAY at HALL ROAD, Heybridge.

Drawings and General Conditions of Contract may be inspected at the office of the Borough Engineer, Market Hill, Maldon, Essex, from whom the Specification, etc., may be obtained upon the deposit of Two Guineas, returnable upon receipt of a bona-fide Tender not subsequently withdrawn.

Tenders to reach the undersigned not later than First Post on FRIDAY, 18th March, 1960, in a sealed envelope marked "Hall Road."

The Council does not bind itself to accept the lowest or any Tender.

K. C. ROBERTSON,  
Town Clerk.

Municipal Offices,  
Market Hill,  
Maldon, Essex.

**FRIERN BARNET URBAN DISTRICT COUNCIL.**

CONSTRUCTION OF LOCK-UP GARAGES.

TENDERS are invited for the ERECTION, in a single row, of EIGHT LOCK-UP GARAGES, stepped in pairs, at BEACONSFIELD ROAD, N.11. The Construction shall be in either Brickwork, in accordance with the Engineer's Drawings, or Precast Concrete to the Manufacturer's Standard Designs.  
Specification, Bills of Quantities, Form of Tender, etc., may be obtained from the Engineer and Surveyor, Town Hall, N.11.

Drawings can be inspected by appointment at the Town Hall during normal office hours.

Sealed Tenders, in the envelope provided, bearing no indication of the sender, must be delivered to the undersigned not later than 10 a.m. on TUESDAY, 8th March, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

R. S. CLOTHIER,  
Clerk of the Council.

**CANNOCK RURAL DISTRICT COUNCIL.**

26 DWELLINGS AND SIX GARAGES AT BROOKHOUSE LANE, FEATHERSTONE.

TENDERS are invited from builders and contractors for the ERECTION of TRADITIONAL TYPE DWELLINGS on the ABOVE SITE. The Contract comprises:—

- 18 Houses.
- Eight Bungalows.
- Six Garages.

Applications to Tender must be received in writing not later than First Post SATURDAY, 5th March, 1960, together with a deposit of £2 2s., which will be returned on receipt of a bona-fide Tender.

Specifications and Conditions of Contract may be inspected at the office of the Council's Engineer and Surveyor, Council Offices, Penkridge. Bills of Quantities will be forwarded to the contractors after the receipt of all applications.

JOHN P. ROBERTS,  
Clerk of the Council.

Council Offices,  
Penkridge,  
Stafford.  
10th February, 1960.



## CONTRACTS

STROUD URBAN DISTRICT COUNCIL.  
HOUSING.

TENDERS are invited from building contractors for the ERECTION of:—  
108 Single-bedroom Flats in Six Three-storey Blocks.  
29 Three-bedroom Houses.  
25 Old People's Bungalows.  
1 Communal Hall and Warden's Flat.  
2 Shops, each with Three-bedroom Flat over.  
30 Garages.  
Complete with Outbuildings, Services, Footpaths and Fences, on the Lower Farmhill Site, Paganhill, Stroud.  
Application for Bills of Quantities and Forms of Tender to be made to the undersigned on or after 7th March, 1960, accompanied by a deposit of £5 5s. (made payable to Stroud Urban District Council), which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn.  
Drawings can be inspected prior to and after issue of Bills of Quantities at the Council Offices or at the office of the Council's Architect, I. M. WILLIAMS, Esq., A.R.I.B.A., Claremont House, 67 Montpellier Terrace, Cheltenham, Glos.  
All queries of a technical nature to be addressed to the Architect. Tenders are to be delivered to the undersigned not later than the First Post on 2nd APRIL, 1960, and no Tender submitted after this date will be considered.  
The Council does not bind itself to accept the lowest or any Tender.

H. S. GIBBONS.

Clerk to the Council.

Council Chambers,  
High Street,  
Stroud.  
24th February, 1960.

## BUSHEY URBAN DISTRICT COUNCIL.

TENDERS are invited for REMOVAL of HUTMENT BASE SLABS, AIR RAID SHELTER, DRAINAGE, etc., at side of 1-19 THE BUNGALOWS, ALDENHAM ROAD, Bushey. All hutments have been removed. Full details and Forms of Tender from ENGINEER AND SURVEYOR, Council Offices, Bushey, Herts.

## ST. AUSTELL URBAN DISTRICT COUNCIL.

TENDERS are invited for the CONSTRUCTION of a SEWAGE PUMPING STATION, 110 yd. of 12in. CAST-IRON SEA OUTFALL and a SHORT LENGTH of 18in. CONCRETE SEWER.  
Drawings, Specifications, General Conditions of Contract and Bill of Quantities can be obtained from H. G. KING, D.S.C., A.M.I.C.E., M.I.Mun.E., Engineer and Surveyor, Municipal Offices, Truro Road, St. Austell, on receipt of a deposit of Three Guineas, which will be returned on receipt of a bona-fide Tender and the return of all documents.  
Tender, in a plain sealed envelope endorsed "Tender for Sewage Sewerage—Stage 1," should be delivered to the undersigned on or before the First Post on MONDAY, the 11th April.  
Tenders must be on a Fixed-price Basis.  
The lowest or any Tender will not necessarily be accepted.

Dated the 17th February, 1960.

(Signed) L. E. SAUDERS.

Clerk to the Council.

Municipal Offices,  
Truro Road,  
St. Austell.

## CIRENCESTER URBAN DISTRICT COUNCIL.

## WATER SUPPLY TO SOUTH CERNEY AND ADJACENT VILLAGES.

## CONTRACT NO. 4.

TENDERS are invited, on a FIXED-PRICE BASIS, from public works contractors experienced in similar works, for the CONSTRUCTION and MAINTENANCE of approx. 2½ miles of 8in. and 6in. dia. SPUN-IRON WATER MAINS, together with Valves and Fittings and all other Works incidental thereto, in the ABOVE URBAN DISTRICT.

Form of Tender, Bills of Quantities, General Conditions of Contract, Specification and Key Plan may be obtained on application to the Council's Engineers, MESSRS. LEMON AND BLIZARD, 59 Tufton Street, Westminster, London, S.W.1, on payment of a deposit cheque of £3 3s. (Three Guineas), which will be returned on receipt of a bona-fide Tender not subsequently withdrawn and the return of all documents issued. Cheques shall be made payable to the Council.

Drawings may be inspected by appointment at the Municipal Offices or at the office of the Engineers.  
Tenders, enclosed in a plain sealed envelope which shall not bear any name or mark indicating the sender and endorsed "Tender for Water Supply to South Cerney—Contract No. 4," must reach the undersigned not later than 5 p.m. on MONDAY, 21st March, 1960.

The Council do not bind themselves to accept the lowest or any Tender.  
Note—The mains referred to in this advertisement will join with those which are the subject of the adjoining advertisement for the Cirencester Rural District Council.

W. E. W. LLOYD.

Clerk of the Council

Municipal Offices,  
Cirencester,  
Glos.  
22nd February, 1960.

## CIRENCESTER RURAL DISTRICT COUNCIL.

## ALTERNATIVE WATER SUPPLY TO SOUTH CERNEY, ETC.

TENDERS are invited for the CONSTRUCTION of approx. 2,550 lin. yd. of 6in. dia. SPUN-IRON WATER MAIN, with incidental Works, in accordance with the Drawing, Specification and Bills of Quantities prepared by the Council's Engineer, Mr. S. W. WATERS AND PARTNERS, of 25 Temple Row, Birmingham, 2.

The Drawing may be seen at, and the General Conditions of Contract, Specification, Bills of Quantities and Form of Tender may be obtained from the offices of the undersigned, or of the Engineers, on or after 25th February, 1960, on payment of a deposit of Five Guineas, which will be refunded upon receipt of a bona-fide Tender and the return of all documents.

Sealed Tenders, on the form supplied and in the endorsed envelope provided, are to be delivered to me at my office not later than Noon on MONDAY, 21st March, 1960.

The Council does not undertake to accept the lowest or any Tender.  
Note—The mains referred to in this advertisement will join with those which are the subject of the adjoining advertisement for the Cirencester Urban District Council.

A. WALTER.

Clerk of the Council.

Council Offices,  
5 Dyer Street,  
Cirencester,  
Glos.  
22nd February, 1960.

## CONTRACTS

## METROPOLITAN BOROUGH OF WANDSWORTH.

## HOUSING AT CLAPHAM.

Contractors wishing to TENDER for ERECTION of 20 Flats, Two- and Three-storey Blocks, at CLAPHAM MANOR STREET, should submit names to me by 9th MARCH, 1960, giving details of experience, plant and technical and supervisory staff available, together with names of two technical and two financial referees. Bills of Quantities will be issued to selected contractors in due course.  
Drawings may be examined at office of Borough Engineer and Architect, Municipal Buildings, Wandsworth, S.W.18.

J. NOEL MARTIN.

Town Clerk.

Municipal Buildings,  
Wandsworth, S.W.18.

## BOROUGH OF BEDFORD

## BRICKHILL—CONTRACT NO. 7.

## CONSTRUCTION OF FOOTPATHS AND VERGES AND SURFACING OF CARRIAGEWAYS.

The Council invites contractors with experience of similar work, and who are willing to TENDER for the ABOVE CONTRACT, to submit their names, giving a list of works carried out, stating employing authorities, to the Borough Engineer and Surveyor, Newnham House, Horne Lane, Bedford, by the First Post on Monday, 28th February, 1960.

The Works will comprise the Construction and Surfacing of approx. 10,000 sq. yd. of Tarmacadam Footpaths on Hardcore Foundations, 15,000 sq. yd. of Cold Asphalt Surfacing to Existing Carriageways, together with 4,000 sq. yd. of Preparation and Seeding of Verges.

The names submitted a selected list of contractors will be chosen and subsequently provided with the Tender documents returnable by 11th MARCH, 1960.

G. F. SIMMONDS.

Town Clerk.

Town Hall,  
Bedford.

## LUDLOW BOROUGH COUNCIL.

## TO BUILDING CONTRACTORS.

The Ludlow Borough Council will shortly invite TENDERS upon Plans and Specifications prepared by the Council's Architect, S. N. SHRIMPTON AND SON, L.R.I.B.A., 54 Broad Street, Ludlow, for the ERECTION of THREE PAIRS of HOUSES of traditional construction at SANDPITS AVENUE, Ludlow. Those wishing to Tender should apply to the undersigned forthwith, enclosing deposit £2 2s., returnable upon receipt of a bona-fide Tender.

J. P. MOLONY.

Town Clerk.

Municipal Offices,  
Dinham,  
Ludlow,  
Salop.  
16th February, 1960.

## CITY AND COUNTY OF NEWCASTLE UPON TYNE.

## REINFORCED CONCRETE TRANSFER LOADING PLATFORM.

The CLEANSING COMMITTEE of the CITY COUNCIL is prepared to receive TENDERS for the CONSTRUCTION and MAINTENANCE at their BYKER DEPOT of a REINFORCED CONCRETE TRANSFER LOADING PLATFORM approx. 75ft. x 60ft., supported on Columns, and with Garage Accommodation beneath the Slab.

Bills of Quantities and Form of Tender may be obtained, and the Drawings inspected, at the Office of the City Engineer, Town Hall, Newcastle upon Tyne, 1, to whom sealed Tenders, enclosed in the envelope provided, are to be delivered not later than 10 a.m. on FRIDAY, 25th March, 1960.

No Tender will be considered unless it is enclosed in the official envelope provided for that purpose, and such envelope must not bear any name or mark indicating the sender.

The Committee does not bind itself to accept the lowest or any Tender.

By Order.

JOHN ATKINSON.

Town Clerk.

Town Hall,  
Newcastle upon Tyne, 1.  
February, 1960.

## RUSHDEN URBAN DISTRICT COUNCIL.

## ANNUAL CONTRACTS.

The Council are prepared to consider TENDERS for the SUPPLY of the FOLLOWING MATERIALS and SERVICES for the 12 Months commencing 1st April, 1960:

- (1) Hoggins, Shingle, Sand and Ballast.
- (2) Granite Concrete Kerbs and Paving Slabs.
- (3) Granite Chippings.
- (4) Tarrad and Bituminous Macadam.
- (5) Tar and Bituminous Compounds.
- (6) Hire of Tarspraying Machinery.
- (7) Hire of Lorries.
- (8) Cement.
- (9) Motor Fuels, Oils and Grease.
- (10) Coke.
- (11) Paints and Distempers.

Forms of Tender, with Specification and Conditions, may be obtained on application to the Engineer and Surveyor, Council Buildings, Rushden, in respect of any, or all, of the items.

Sealed envelopes, endorsed "Annual Contracts," must be delivered to me not later than Noon on FRIDAY, the 4th March, 1960.

A. G. CROWDY.

Clerk of the Council.

Council Buildings,  
Rushden.

## HERRING INDUSTRY BOARD.

## PROPOSED COLD STORE TO BE ERECTED AT MALLAIG, INVERNESS-SHIRE.

## INVITATION TO TENDER.

The Board invite TENDERS for the SITE WORKS involved prior to and associated with the CONSTRUCTION of a COLD STORE of area approx. 4,000 sq. ft. The Works include the necessary Foundations and Raft for the Store, Machine Bases, Yard and Drainage Systems with Sea Outfall, and Sea Water Pump House and Intake Line.

Specification and Bill of Quantities may be obtained upon application to the undersigned if received within seven days of the date of publication of this notice, accompanied by a deposit of £10 10s., which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn and after the return of all documents to the Board.

A. FAIRLEY.

Secretary to the Board.

1 Glenfinlas Street,  
Edinburgh, 3.

## CONTRACTS

## ROYAL COUNTY OF BERKSHIRE.

## HIGHWAYS ACT, 1959 (PART 9)—CODE OF 1892.

TENDERS are invited for MAKING-UP ERLIGH COURT DRIVE, ERLIGH. The Works involved in this Contract are as follows:

- 2,000 sq. yd. of Hardcore.
- 2,000 sq. yd. of Bitumen Macadam.
- 500 lin. yd. of Kerbing.
- 1,000 sq. yd. of Bitumen Macadam and Cold Asphalt Footways.
- 220 lin. yd. of Highway Drain, and incidental works.

Drawings may be inspected, and Specification, Bill of Quantities and Form of Tender obtained from the Office of the COUNTY SURVEYOR, Shire Hall, Reading, on payment of a deposit of £2 (Two Pounds), which will be refunded on receipt of a bona-fide Tender.

Tenders, in envelopes provided, must be returned not later than 12 Noon on FRIDAY, 11th March, 1960.

The Council does not bind itself to accept the lowest or any Tender.

## CITY OF STOKE-ON-TRENT.

## EXTENSION OF SURFACE WATER AND FOUL SEWERS—CHURCH ROAD, BLURTON.

The CORPORATION invite TENDERS from civil engineering contractors for the CONSTRUCTION of approx. 33 lin. yd. of 6in. dia. STONEWARE PIPE FOUL SEWER and 105 lin. yd. of dual 6in. dia. STONEWARE PIPE SURFACE WATER SEWER in Roads, at an average depth of 7ft. 6in., together with incidental works, at the ABOVE SITE.

Drawings may be inspected, and Contract documents obtained from the City Engineer and Surveyor, Town Hall, Stoke-on-Trent, on payment of £2, which will be returned if a bona-fide Tender is received.

The Tender and Bill of Quantities (in the separate envelopes provided) must be delivered to the undersigned by 12 Noon on WEDNESDAY, 16th March, 1960.

HARRY TAYLOR.

Town Clerk.

## HODDESDON URBAN DISTRICT COUNCIL.

## RYE ROAD (NORTH) INDUSTRIAL SITE.

## CONTRACT NO. 100.

TENDERS are invited from contractors who have the necessary experience and resources for the CONSTRUCTION of approx. 340 yd. of 18in. dia. ROAD, consisting of 18ft. Carriageway, Drainage, and other ancillary works.

Application for Tender documents should be made to the Engineer and Surveyor, Woodlands, High Street, Hoddesdon, where the Drawings may be inspected during normal office hours.

Completed Forms of Tender should be returned, in the envelope provided, to the undersigned by 14th March, 1960.

LEONARD G. JONES.

Clerk of the Council.

Council Offices,  
High Street,  
Hoddesdon, Herts.

## SOUTHAM RURAL DISTRICT COUNCIL.

## SHOTTESWELL SEWERAGE.

The Council invite TENDERS from contractors having experience in similar work for this SCHEME which consists of the FOLLOWING:

- (a) Laying of approx. 1,300 yd. of 6in. dia. Spun-iron Sewers, together with the Construction of relevant Manholes.
- (b) Construction of a Sewed Disposal Works, consisting of Two Septic Tanks, capacity 6,600 gallons, One Percolating Filter, 134 cu. yd., Two Humus Tanks, capacity 1,500 gallons, and a Sludge and Supernatant Water Pump Station, together with the necessary Drains, Chambers, etc.
- (c) House Connections.

All in accordance with the Drawings, Specifications, Bills of Quantities and Conditions of Contract prepared by: MESSRS. W. HERBERT BATEMAN AND PARTNERS, of Bathaston, Northwick and Westminster, the Consulting Engineers to the Council.

The Drawings, Specification, Bill of Quantities and General Conditions of Contract will be available for inspection by appointment at the Offices of the Council or at the Bathaston office of the Consulting Engineers during normal office hours, on or after 29th FEBRUARY, 1960, but technical questions can be dealt with only at the latter office.

Copies of the General Conditions, Specification, Bill of Quantities and Form of Tender will be issued to intending contractors on application to MESSRS. W. HERBERT BATEMAN AND PARTNERS, Bathaston House, Bathaston, Bath, on or after 29th FEBRUARY, 1960. Applications must be accompanied by a deposit of £5 5s., which will be returned upon receipt of a bona-fide Tender not subsequently withdrawn.

Applications for Tender documents must be accompanied with the names and addresses of three Engineers under whose direction similar schemes have been carried out by the applicant.

Sealed Tenders, on the form provided in the Bill of Quantities, endorsed "Shotteswell Sewerage Scheme," accompanied by the Bill of Quantities printed in ink, should be posted to reach the undersigned not later than the First Post on MONDAY, 21st March, 1960.

The Council do not bind themselves to accept the lowest or any Tender and will not be responsible for any expenses incurred by those tendering.

J. I. YOUNG.

Clerk of the Council.

Council Offices,  
Coventry Road,  
Southam,  
Warwickshire.

## WEST OF OUSE INTERNAL DRAINAGE BOARD.

## WALPOLE CROSS DRAIN SCHEME.

## PRESTRESSED BEAMS AND PRECAST SLABS.

FIXED-PRICE TENDERS are invited for the MANUFACTURE and DELIVERY to Sites within 10 miles of KING'S LYNN, Norfolk, of 96 PRESTRESSED POST-TENSIONED BRIDGE BEAMS (72 x 42ft. long, 24 x 25ft. long) and 24 PRECAST REINFORCED CONCRETE ABUTMENT SLABS.

Tender documents may be obtained on application to the Engineer, Great Ouse River Board, Elmhurst, Brooklands Avenue, Cambridge.

Tenders, in a plain envelope endorsed "Bridge Beams," should be received by the undersigned by Noon, MONDAY, 21st March, 1960.

S. DENITHORNE.

Clerk of the Board.

Norwich Union House,  
26 Tuesday Market Place,  
King's Lynn.

## CONTRACTS

## COUNTY BOROUGH OF BLACKBURN.

## SAMBLESBURY SEWAGE WORKS.

## CONTRACT NO. 1.

## SMITH FOLD FARM SITE.

The COUNCIL will shortly invite TENDERS for the CONSTRUCTION of a NEW SEWAGE WORKS at Samblesbury and it is anticipated that the documents will be available in early March.

The works consist of the Excavation for, and the Construction of, Primary Settling Tanks, Bacteria Beds and Humus Tanks, and forms the First Stage Contract of a major reorganisation. Civil Engineering contractors interested in this type of work should forward their names and addresses, together with a deposit of £10 10s., to the Borough Engineer and Surveyor, Town Hall, Blackburn, by 4th MARCH, 1960. Information giving particulars of similar works, and size undertaken, should accompany the application. FRANK SQUIRES, Town Clerk.

## BOROUGH OF ROWLEY REGIS.

## PROPOSED PLAYING FIELDS—TIVIDALE PARK.

TENDERS are invited for the SITE LEVELLING and FILLING of DERELICT LAND, comprising approx. 21,000 cu. yd. Bulk Excavation.

Tender documents can be obtained from the Borough Engineer and Surveyor, S. G. WOOD, M.I.Mun.E., at the address below, on payment of a deposit of £2 2s., which will be refunded on receipt of a bona-fide Tender, not afterwards withdrawn. The Tender must be sent to the undersigned in the envelope provided, endorsed "Proposed Playing Fields—Tividale Park," so as to arrive not later than Noon on MONDAY, 7th March, 1960.

JOHN HILTON, Town Clerk.

## BOROUGH OF WEYMOUTH AND MELCOMBE REGIS.

TENDERS are invited for the SUPPLY of the UNDERMENTIONED during the year ending 31st March, 1961:

- (1) Portland Cement.
- (2) Local Stone, Gravel, Sand, etc., and Ready Mixed Concrete.
- (3) Mechanical Haulage.
- (4) Hardstone.
- (5) Tarmacadam and Bituminous Macadam.
- (6) Precast Concrete Kerb, Channel and Paving Slabs.
- (7) Tar and Bituminous Compounds (including supply applications).
- (8) Concrete Tubes and Stoneware Pipes.
- (9) Hot Rolled Asphalt and Cold Carpet Surfacing.
- (10) Petrol, Diesel Fuel and Paraffin.

Schedules, etc., may be obtained from the Borough Engineer and Surveyor, 6 Putney Buildings, Weymouth.

Tenders, enclosed in plain sealed envelopes, appropriately endorsed, are to be delivered to the undersigned not later than 10 a.m., FRIDAY, 11th March, 1960.

The Corporation does not bind itself to accept the lowest or any Tender.

E. J. JONES, Town Clerk.

## CITY OF MANCHESTER

## DAVYHULME SEWAGE WORKS EXTENSIONS—STAGE 1B.

## PRIMARY SEDIMENTATION TANKS, CAST-AND SPUN-IRON PIPES.

TENDERS are invited for the SUPPLY and DELIVERY of CAST-AND SPUN-IRON PIPES and SPECIALS for the DAVYHULME SEWAGE WORKS EXTENSIONS.

Tender documents, returnable by 9.30 a.m. on the 14th MARCH, 1960, from the CITY SURVEYOR, Town Hall, Manchester, 2.

## CAISTOR RURAL DISTRICT COUNCIL.

## TENDERS FOR HOUSING.

The above Council invite contractors who are desirous of submitting TENDERS for the ERECTION and COMPLETION of TWO BUNGALOWS at CLAXBY, SIX BUNGALOWS at MIDDLE RASEN, and TWO BUNGALOWS at BISHOP NORTON, and TWO BUNGALOWS at SNITTERBY (total 12 Bungalows, all in pairs), to send in their names to the Architects, MESSRS. W. M. SAUNDERS AND PARTNERS, of 74 Castle Gate, Newark-on-Trent, Notts., or 57 Uppate, Louth, Lincs., from whom copies of the Specifications and Bills of Quantities and Conditions may be obtained on payment of £3 3s., which will be returned on receipt of a bona-fide Tender.

The Council do not bind themselves to accept the lowest or any Tender received, and acceptance is subject to the approval of the Ministry of Housing and Local Government.

Sealed and endorsed Tenders, in forms supplied, must reach the undersigned not later than 12 Noon on WEDNESDAY, 9th March, 1960.

C. G. BARR, Clerk of the Council.

Council Offices, Caistor, Lincs., 17th February, 1960.

## EAST SUFFOLK AND NORFOLK RIVER BOARD.

## NEW SEA WALL AND GROYNES AT HAPPISBURGH CART GAP.

TENDERS are invited for the CONSTRUCTION of a new SEA WALL approx. 670ft. long and one GROYNES, 24ft. long.

The Sea Wall will be of Reinforced Concrete with Steel Sheet Piling Toe and the Groynes will be of Steel Sheet Piling and Timber.

Copies of the Contract documents and Drawings may be obtained from the Chief Engineer to the Board, K. E. COTTON, M.B.E., on payment of a deposit of £5 5s., which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn, and on the return of all Contract documents and Drawings.

Tenders, on the prescribed form and in a plain sealed envelope endorsed "Sea Wall at Happisburgh Cart Gap," must be returned to the undersigned not later than 9 a.m. on FRIDAY, 25th March, 1960.

S. VINCENT ELLIS, Clerk of the Board.

The Cedars, Alhamarie Road, Norwich, Norfolk (NOR 81E), 24th February, 1960.

## CONTRACTS

## MINISTRY OF HOME AFFAIRS.

TENDERS are invited for the SUPPLY of the FOLLOWING STORES for the CONSTABULARY FORCES:—

- Uniform Cloth.
- Waterproof Clothing.

Tender forms may be obtained on application to the SECRETARY, Ministry of Home Affairs, Stormont, Belfast, 4. Applicants should indicate for which supply they wish to Tender. Preference will be given to firms on the King's National Roll.

## BOROUGH OF COLCHESTER.

## CONSTRUCTION OF FOUL AND SURFACE WATER SEWERS.

## GREENSTEAD ESTATE—STAGE II.

TENDERS are invited from competent civil engineering contractors for the CONSTRUCTION of about 2,400 lin. yd. of 15in. to 6in. dia. CONCRETE and STONEWARE SEWERS, together with Brick and Precast Concrete Manholes, and other ancillary works, at the ABOVE ESTATE.

The Conditions of Contract and Plans may be inspected at the Borough Engineer's Office, and Form of Tender may be obtained from the Office of the undersigned on payment of a deposit of £2 (Two Pounds), which will be refunded on receipt of a bona-fide Tender and return of all documents.

Tenders, in plain sealed envelopes endorsed appropriately and bearing no mark or indication of the sender, must be delivered to the undersigned not later than Noon on FRIDAY, 11th March, 1960.

The Council does not bind itself to accept the lowest or any Tender.

Canvassing members of the Council is not permitted. J. S. ORCHARD, Borough Engineer.

1 West Stockwell Street, Colchester.

## HAVERFORDWEST RURAL DISTRICT COUNCIL.

## HERBRANDSTON SEWAGE WORKS EXTENSION.

FIXED-PRICE TENDERS are invited from competent civil engineering contractors for the CONSTRUCTION of EXTENSIONS to the EXISTING SEWAGE WORKS at Herbrandston, which is three miles west of Milford Haven town.

The Extensions comprise Vertical Flow Settling Tank, Additional Filters and Dosing Chamber, Demolition of Existing Sludge Beds and Humus Tank, and Construction of new Humus Tanks and Sludge Beds, and ancillary works.

Plans, Specification and Bill of Quantities may be obtained from the Council's Engineer and Surveyor, 8-10 Picton Place, Haverfordwest. No deposit is required, but tenders are expected to return documents, and the Council reserves the right to charge for any documents not returned.

Closing date for receipt of Tenders at this Office is 18th MARCH, 1960.

The Council does not undertake to accept the lowest or any Tender, and the acceptance of a Tender is subject to the approval of Welsh Office, Ministry of Housing and Local Government.

HENRY J. DICKMAN, Clerk of the Council.

8-10 Picton Place, Haverfordwest, Pembro.

13th February, 1960.

## WANTAGE RURAL DISTRICT COUNCIL.

## PARISH OF EAST HENDRED.

## SURFACE WATER AND FOUL SEWERS.

TENDERS are invited, on a Fixed-price Basis, for the CONSTRUCTION of approx. 860ft. of 30in. and 180ft. of 24in. CONCRETE PIPE SURFACE WATER SEWER and 150yd. of 6in. PITCH FIBRE FOUL SEWER, together with Brick Manholes, and other incidental works.

Copies of the Plans, Specification, General Condition of Contract and Bills of Quantities may be obtained on application to the undersigned, on payment of a deposit of £2 2s., which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn.

The Council do not bind themselves to accept the lowest or any Tender, and acceptance is subject to the approval of the Ministry of Housing and Local Government.

Sealed Tenders must reach the undersigned on or before SATURDAY, 19th March, 1960.

L. WOODGATE, Clerk of the Council.

Council Offices, Belmont, Wantage, Berks., 18th February, 1960.

## ISLE OF WIGHT WATER BOARD.

## MODERNISATION OF CARISBROOKE PUMPING STATION.

## CONTRACT NO. 2—CHLORINATION.

TENDERS are invited from experienced contractors for the SUPPLY, DELIVERY, ERECTION and SETTING TO WORK of an AUTOMATIC CHLORINATING and DECHLORINATING INSTALLATION, having Automatic Residual Control.

Tender documents obtainable from the Engineer and Manager, 58 St. John's Road, Newport, Isle of Wight. Tenders to be delivered to the undersigned by 12 Noon on the 21st MARCH, 1960.

L. H. BAINES, Clerk to the Board.

County Hall, Newport, Isle of Wight.

## GREAT OUSE RIVER BOARD.

## EXTENSION OF WESTERN TRAINING WALL.

The Great Ouse River Board invite TENDERS for the EXTENSION of the WESTERN TRAINING WALL of the RIVER GREAT OUSE, near King's Lynn, Norfolk. The work comprises the Construction of about 2,000 ft. of an Extension to the Western Training Wall at the entrance of the Marsh Cut from the Wash at King's Lynn, using Fascine Mattresses and Pitching.

A copy of the Drawings and other Contract documents may be obtained on payment of a deposit of Five Guineas, which is refundable to bona-fide Tenderers. Application for the documents must be in writing.

Only Tenders from firms who have had experience in this class of work and who have, or can obtain, the necessary plant will be considered.

Tenders must be received not later than Midday on 8th APRIL, 1960.

(Signed) K. M. RODDIS, Clerk of the Great Ouse River Board.

Elmhurst, Brooklands Avenue, Cambridge.

## CONTRACTS

## COUNTY COUNCIL OF DURHAM.

## TENDERS invited for SUPPLY of the FOLLOWING:

- (1) Handicraft Timber to Schools.
- (2) Hand Towels and Containers to 14 addresses.
- (3) Musical Instruments, (b) Plumbing Workshop Equipment to Durham Technical College.

Forms of Tender, returnable by 4th MARCH, 1960, and details from undersigned.

G. H. METCALFE, Director of Education.

Shire Hall, Durham.

15th February, 1960.

## CITY AND COUNTY OF BRISTOL.

## CITY ENGINEER AND PLANNING OFFICER'S DEPARTMENT.

## PREPARATION OF HOUSING SITE—KENNARD ROAD, ST. GEORGE.

TENDERS invited for CONSTRUCTION of ROADS and SEWERS on ABOVE SITE. Work includes approx. 1,750 sq. yd. of Reinforced Concrete Road, including Kerbing, and 500 sq. yd. of Bitumen Disposal Works, including Kerbing and Channelling, and 450 lin. yd. of 9in. and 12in. dia. Sewers.

Plans seen, and copies of Conditions of Contract, Specification and Bill of Quantities obtainable at Office of City Engineer and Planning Officer, Cabot House, Deane Road, Bristol, 1.

Tenders, in envelope provided, endorsed "Kennard Road Housing Site," but bearing no mark indicating sender, to CITY ENGINEER AND PLANNING OFFICER by 21st MARCH.

## KERRIER RURAL DISTRICT COUNCIL.

## SEWERAGE AND SEWAGE DISPOSAL SCHEMES—TENDERS.

TENDERS are invited from competent contractors having experience of similar work, for the UNDERMENTIONED SEWERAGE AND SEWAGE DISPOSAL SCHEMES:

- (a) Village of St. Keverne.—This Scheme involves the Laying of 105 lin. yd. of 9in. Spun-iron Pipes and 412 lin. yd. of 9in. and 24.75 in. yd. of 6in. Glazed Stoneware Sewers, together with Concrete Manholes, the Construction of a Sewage Disposal Works, consisting of Detritus, Settlement, Storm Water and Humus Tanks, Filters, Sludge Drying Beds, and all ancillary works.

- (b) Village of Nancegollan.—This Scheme involves the Laying of 76 lin. yd. of Spun-iron Pipes and 1,335 lin. yd. of 6in. Glazed Stoneware Sewers, together with Concrete Manholes, the Construction of a Sewage Disposal Works, consisting of Screening Chamber, Settlement and Dosing Tanks, Filter, Humus Tank, Sludge Drying Beds, and all ancillary works.

Contractors wishing to submit a Tender for either or both Schemes, on a Fixed-price Basis (i.e., without the inclusion of Cost Variation Clauses for Labour and Materials), should apply to the Council's Consulting Engineers, MESSRS. HARVEY, MCGILL AND HAYES, of 8 Richmond Road, Exeter, from whom copies of the respective Specifications, Bills of Quantities and Forms of Tender may be obtained on or after MONDAY, 29th February, on payment of a deposit of £5 5s. (each set of documents), by cheque made payable to the Kerrier Rural District Council.

The deposit will be refunded to contractors who submit bona-fide Tenders not subsequently withdrawn, accompanied by priced Bill of Quantities, and after the return of all documents and Drawings.

Sealed Tenders, endorsed "St. Keverne Sewerage" or "Nancegollan Sewerage," as appropriate, and bearing no name or mark identifying the sender, are to be delivered to the undersigned not later than 10 a.m. on MONDAY, 28th March, 1960.

The Council do not bind themselves to accept the lowest or any Tender they may receive.

W. J. THOMAS, Clerk of the Council.

Council Offices, The Willows, Helston, Cornwall.

16th February, 1960.

## LUTON RURAL DISTRICT COUNCIL.

## TILSWORTH MAIN DRAINAGE.

The Council invite TENDERS for the CONSTRUCTION of approx. 1,200 yd. of 6in. STONEWARE or CONCRETE PIPE SEWERS, together with the necessary manholes, etc., the CONSTRUCTION of TWO SMALL BRICK-BUILT PUMPING STATIONS, and LAYING approx. 3,000 lin. yd. of 4in. ASBESTOS-CEMENT PUMPING MAIN.

Forms of Tender, Specification and Bill of Quantities may be obtained from the Council's Engineer and Surveyor, J. A. MURCH, M.I.Mun.E., A.M.T.P.I., 48 Bute Street, Luton, upon payment of a deposit of £2 2s., which will be refunded upon receipt of a bona-fide Tender which is not subsequently withdrawn.

Drawings illustrating the works to be carried out may be inspected at the Engineer and Surveyor's Offices during normal working hours.

Tenders, in the endorsed envelope provided, must be returned to the undersigned not later than 12 Noon, SATURDAY, 26th March, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

EVAN A. C. EVANS, Clerk to the Council.

Rural Council Offices, 42 Bute Street, Luton, Beds.

## EAST SUFFOLK AND NORFOLK RIVER BOARD.

## RIVER WAVENEY—ELECTRICALLY OPERATED SLUICE GATE AT BUNGAY.

The Board invites TENDERS from experienced manufacturers for the SUPPLY and ERECTION of one ELECTRICALLY OPERATED MILD STEEL SECTOR TYPE SLUICE GATE, 20ft. wide x 7ft. high.

Copies of the Drawings and Contract documents may be obtained from K. E. COTTON, Chief Engineer to the Board, upon payment of a deposit of £5 5s., which will be returned upon receipt of a bona-fide Tender not subsequently withdrawn, or the return of all the documents.

Tenders, contained in a plain sealed envelope marked "Bungay Sluice," are to be returned to the undersigned not later than 9 a.m. on WEDNESDAY, 6th April, 1960.

The lowest or any Tender will not necessarily be accepted.

S. VINCENT ELLIS, Clerk to the Board.

The Cedars, Alhamarie Road, Norwich, Norfolk (NOR 81E), 17th February, 1960.



## CONTRACTS

## MONTGOMERYSHIRE COUNTY COUNCIL

## COUNTY SURVEYOR'S DEPARTMENT.

## DEMOLITION OF LLANFYLLIN TOWN HALL.

TENDERS are invited for the DEMOLITION of LLANFYLLIN TOWN HALL. Contract documents may be obtained from the County Surveyor, County Offices, Welshpool, upon payment of a £2 deposit. Tenders to be returned in plain sealed envelopes and endorsed "Demolition Tender" to the undersigned by MONDAY, 29th February, 1960.

P. E. WHITE,  
Clerk to the County Council.

County Offices,  
Welshpool,  
Mont.

17th February, 1960.

## BANFF COUNTY COUNCIL

## ROADS DEPARTMENT.

TENDERS are invited for the UNDERNOTED for the year 16th May, 1960, to 15th May, 1961:

- (1) Surface Spraying (application only).
- (2) Liquid Bitumen for Spraying.
- (3) Liquid Bitumen for Quarries.
- (4) Penetration Bitumen.
- (5) Bitumen Emulsion.
- (6) Bitumen Macadam.
- (7) Hot Rolled Asphalt.
- (8) Stone Chippings.
- (9) Concrete Kerbing.
- (10) Cement.
- (11) White Line Paint.
- (12) White Plastic Line Marker.
- (13) Traffic Signs.
- (14) General Tools, etc.
- (15) Coal.

Conditions of Contract, Specification and Schedule of Quantities may be obtained from the County Road Surveyor, County Buildings, Banff, by sending a stamped addressed foolscap envelope. Tenders, in sealed envelopes marked "Tender for —", to be lodged with the undersigned not later than SATURDAY, 12th March, 1960.

R. J. CUMMING,  
County Clerk.

County Buildings,  
Banff.

## COUNTY BOROUGH OF BLACKBURN.

## SOAP.

TENDERS are invited for the year commencing 1st April, 1960, as follows:  
Hard Soap (bars), XX Pale; Carbolic: White Windsor; Soap Powders No. 1 and No. 2; Soft Soap; Liquid Soap.

Tender forms from the Borough Engineer, Town Hall, Blackburn, to be returned to me, with samples, by 16th MARCH.

FRANK SQUIRES,  
Town Clerk.

## BOROUGH OF LUTON.

TENDERS are invited for the CONSTRUCTION of approx. 15,000 sq. yd. of PAVED FOOTWAYS, and ancillary works, at LEWSEY FARM ESTATE.

Tender documents from Borough Engineer, Town Hall, Luton, on payment of £2 2s. deposit, returnable after receipt of bona-fide Tender not subsequently withdrawn. Cheques payable Luton Corporation.

TENDERS to TOWN CLERK, Town Hall, Luton, by Noon, FRIDAY, 4th March, 1960.

## BOROUGH OF EALING.

## STREET LIGHTING—WESTERN AVENUE.

- (1) SUPPLY of 56 200-W SODIUM LANTERNS and 44 AERO SCREENED PATTERN, complete with GEAR and LAMPS.
- (2) SUPPLY and ERECTION of 100 30ft. mounting height STEEL COLUMNS.

Details obtainable from Borough Engineer, Town Hall, Ealing, W.5, on payment of £5 for each TENDER, returnable on receipt of a bona-fide Tender. Tenders to TOWN CLERK, Town Hall, Ealing, W.5, by Noon, 21st MARCH, 1960.

## BOROUGH OF NEWARK-ON-TRENT.

TENDERS FOR DEMOLITION AND SITE WORKS—NORTH GATE-LOVERS LANE.

TENDERS invited for the DEMOLITION of OLD TITHE BARN with Framed Oak Roof, and also 16 DWELLINGS: SITE CLEARANCE of approx. 10,000 sq. yd., and CONSTRUCTION of BUILDERS' ROAD, approx. 1,250 sq. yd.

Tender documents from Borough Surveyor, Municipal Buildings, Newark-on-Trent, on payment of £2 2s., returnable upon receipt of a bona-fide Tender.

Tenders, in plain sealed envelopes endorsed "Site Works—Lovers Lane," to the Borough Surveyor by 10th MARCH, 1960.

The Council does not bind itself to accept the lowest or any Tender.

J. H. M. GREAVES,  
Town Clerk.

Municipal Offices,  
Newark-on-Trent.

18th February, 1960.

## COALVILLE URBAN DISTRICT COUNCIL.

## ROADS—SURFACE DRESSING.

TENDERS are invited for SURFACE DRESSING of ROADS (74,000 sq. yd.).

Particulars from the Engineer and Surveyor, Municipal Offices, Coalville.

Tenders to be returned by 15th MARCH, 1960, to CLERK OF THE COUNCIL, Municipal Offices, Coalville.

## WIGSTON URBAN DISTRICT COUNCIL.

## ANNUAL CONTRACTS.

The above-named Council invite TENDERS for the year ending 31st March, 1961, for the HIRE OF PLANT for ROAD WORKS within the District:

- Schedule No.
- (1) Rolling Works.
- (2) Heating and Planing Works.

Forms of Tender and Particulars may be obtained from the Engineer and Surveyor.

Intending contractors must specify the Schedule(s) required and enclose a stamped addressed envelope.

Sealed Tenders, in the envelope provided, and not bearing any indication of the name of the sender, to be delivered to the undersigned not later than 14th MARCH, 1960.

W. H. GUNNING,  
Clerk of the Council.

Council Offices,  
Wigston, Leics.

## CONTRACTS

## EAST SUFFOLK COUNTY COUNCIL.

TENDERS are invited for the SUPPLY and FIXING of VENETIAN BLINDS in certain SCHOOLS in the County.

Schedules, Specifications and Tender Forms obtainable from the Chief Education Officer, Education Office, Rope Walk, Ipswich.

Completed Tenders to reach the CLERK OF THE COUNCIL, County Hall, Ipswich, not later than First Post on 7th APRIL, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

## BOROUGH OF GILLINGHAM.

## COMBINED SEWER—BERENGRAVE LANE.

TENDERS are invited for the CONSTRUCTION of a COMBINED SEWER in Berengrave Lane, Rainham. The work comprises excavating for, Providing and Laying approx. 250 lin. yd. of 12in. G.S. Pipes; 50 lin. yd. of 15in. S. and S. Concrete Pipes; 80 lin. yd. of 18in. S. and S. Concrete Pipes; 260 lin. yd. of 21in. S. and S. Concrete Pipes; 60 lin. yd. of 33in. S. and S. Concrete Pipes; also Precast Concrete and Brick Manholes, and other ancillary works.

The documents and Drawings are being prepared, and an application for copies of the Specification, Bills of Quantities, and further instructions, etc., should be addressed to the Borough Engineer, Municipal Buildings, Gillingham, Kent, accompanied by a deposit cheque for £2 2s., returnable on the receipt of a bona-fide Tender not subsequently withdrawn.

The completed Tender must be delivered to the undersigned by First Post, FRIDAY, 11th March, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

FRANK HILL,  
Town Clerk.

Municipal Buildings,  
Gillingham, Kent.

16th February, 1960.

## CITY OF STOKE-ON-TRENT.

## BARLASTON ROAD (CLASS III), NEWSTEAD.

## IMPROVEMENT ADJACENT TO WATERSIDE DRIVE.

The CORPORATION invite TENDERS from civil engineering contractors for CARRYING OUT WORKS on the ABOVE SITE.

The work involves the Provision of approx. 600 sq. yd. of Stone Foundation Surfaced with Bitumen Macadam, and the Construction of approx. 430 sq. yd. of Footways, together with Accommodation Works.

Drawings may be inspected on the receipt of documents obtained from the City Engineer and Surveyor, Town Hall, Stoke-on-Trent, on payment of £2, which will be returned on a bona-fide Tender is received.

The Tender and priced Bill of Quantities (in the separate envelopes provided) must be delivered to the undersigned by 12 Noon on WEDNESDAY, 16th March, 1960.

HARRY TAYLOR,  
Town Clerk.

## HEBBURN URBAN DISTRICT COUNCIL.

## ERECTION OF FOUR BLOCKS OF 4-STORY

## MAISONNETTES.

## STEELWORK.

The Council proposes to CONSTRUCT the ABOVE STEEL-FRAMED BUILDINGS, and applications are invited from competent steelwork contractors.

Contractors will be required to submit their own sketch design, and to submit a Bill of Materials and submit TENDERS for PROVIDING and ERECTING the STEELWORK.

Contractors should submit their names to the Engineer and Surveyor not later than 3rd MARCH, 1960.

It will be a condition of acceptance that the Erection of Steelwork shall commence within three weeks of the acceptance of a Tender and thereafter that the Erection of a Block be completed each succeeding month.

J. R. PASSEY,  
Clerk of the Council.

Council Offices,  
Argyle Street.

Hebburn, Co. Durham.

16th February, 1960.

## UGBOROUGH PARISH COUNCIL.

TENDERS are invited for the INSTALLATION of 12 140-W SODIUM LAMPS, mounted on 25ft. Concrete Columns, on TRUNK ROAD A.38, at Bittaford.

The Specification may be had from the CLERK, Ugborough Parish Council, Ugborough, Ivybridge, Devon.

Closing date for Tenders will be 18th MARCH, 1960.

## FLINTSHIRE EDUCATION COMMITTEE.

TENDERS are invited for the SUPPLY of 3,000 tons of good quality GAS COKE for delivery by road in quantities varying from one to five tons, at various Schools in the County, and also for the SUPPLY of 200 tons of BIRCHWOOD COKE to be delivered to the Flintshire Horticultural Institute, Northop, as and when required, during the year commencing the 1st April, 1960.

Further particulars may be obtained on application to the DIRECTOR OF EDUCATION, County Education Offices, Mold, Flintshire.

The closing date is FRIDAY, 4th March.

## FAR BAULKER JOINT WATER COMMITTEE.

## WORKS OF WATER SUPPLY.

## CONTRACT NO. 2.

TENDERS are invited, on a Fixed-price Basis, for the SINKING and Lining WITH Mild Steel Tubes of a BOREHOLE 24in. (minimum) in dia. and of a total depth of about 500ft. from ground level, and the CARRYING OUT of a PUMPING TEST thereon, in accordance with the Specification prepared by the Engineers, MESSRS. A. H. S. WATERS AND PARTNERS, of 25 Temple Row, Birmingham, 2.

Copies of the Specification and Form of Tender may be obtained from the Office of the Engineers on payment of a deposit of Five Guineas, which will be refunded upon the receipt of a bona-fide Tender and the return of all documents.

Sealed Tenders, on the forms supplied, are to be delivered to my Office not later than Noon on FRIDAY, 25th March, 1960.

No undertakes to give that the lowest or any Tender will be accepted.

WALTER LAUGHTON,  
Clerk of the Far Baulker Joint

Water Committee.

Barclays Bank Chambers,  
Low Street,

Sutton-in-Ashfield, Notts.

17th February, 1960.

## CONTRACTS

## INVERNESS COUNTY COUNCIL.

## TENDERS are invited for the FOLLOWING:

(a) AVIEMORE: Construction of Two Burn Intakes, Combined Filter and Storage Tank, and Laying of about 5 miles of 6in. dia. 1½in. dia. Asbestos-cement Pipes. Site meeting on 29th February, starting from Aviemore Station Square at 10.30 a.m.

(b) PORTREE: Supply and Laying of about 1,200yd. of 6in. and 9in. F.C. and A.C. Sewers. Site meeting on 1st March, starting from Somerled Square at 11 a.m.

Contract documents obtainable from County Water Engineer, County Buildings, Inverness. Tenders, marked "Aviemore Water" and "Portree Drainage," by 15th MARCH to COUNTY CLERK, County Buildings, Inverness.

## SURREY COUNTY COUNCIL.

## HIGHWAYS AND BRIDGES DEPARTMENT.

TENDERS are invited for SUPPLY and ERECTION of a STEEL-FRAMED OPEN-TYPE GARAGE with Asbestos-Cement Sheet Cladding, 70ft. long x 45ft. wide, at COLD BLOW DEPOT, Banstead.

Particulars and Forms of Tender, returnable by 12 Noon on FRIDAY, 18th March, 1960, obtainable from COUNTY ENGINEER, County Hall, Kingston-upon-Thames.

## LANCASHIRE COUNTY COUNCIL.

## BIRMINGHAM-PRESTON MOTORWAY.

## TENDERS are invited for the FOLLOWING

## CONTRACTS:

LANCASHIRE SECTION—CONTRACT NO. 2 (Woolston to Winstanley Park). The Construction of 11.3 miles of Motorway, including 32 Bridges, and Alterations to Side Roads.

LANCASHIRE SECTION—CONTRACT NO. 3 (Winstanley Park to Preston By-pass). The Construction of 14.8 miles of Motorway, including 40 Bridges, and Alterations to Side Roads.

Tender documents (in duplicate) can be obtained with effect from 4th MARCH, 1960, from JAMES DRAKE, B.Sc., M.I.C.E., M.I.Mun.E., F.I.H.E., County Surveyor and Bridgmaster, P.O. Box No. 9, County Hall, Preston, on payment of £50 for each Contract, cheques to be made payable to the Lancashire County Council.

Deposits will only be refunded after the receipt in each case of a bona-fide Tender, and the return of all documents and Drawings supplied.

Tenders to be received not later than 4 p.m. on THURSDAY, 5th May, 1960.

## BOROUGH OF NEWCASTLE-UNDER-LYME.

## ROE LANE C.S.M. SCHOOL.

## TENDERS.

## TO ELECTRICAL AND HEATING CONTRACTORS.

TENDERS are invited for the INSTALLATION of the ELECTRICAL SERVICES, and HEATING and HOT WATER SUPPLY SERVICES in the ABOVE SCHOOL.

Applications should be made to the Borough Surveyor, Lancaster Building, High Street, Newcastle, Staffs., not later than WEDNESDAY, 2nd March, 1960.

C. J. MORTON,  
Town Clerk.

## BOROUGH OF ECCLES.

The ECCLES CORPORATION invite TENDERS, returnable by 10 a.m. on SATURDAY, 12th March, 1960, for: (a) FOOTPATH RECONSTRUCTION; (b) RESURFACING TO CARRIAGEWAY with HOT ROLLED ASPHALT in ELLESMERE AVENUE, Eccles (approx. 130 lin. yd.).

Plans may be seen, and documents obtained, on application to the Borough Engineer and Surveyor, Town Hall Annex, Irwell Place, Eccles.

The Corporation do not bind themselves to accept the lowest or any Tender.

NORMAN MITCHELL,  
Town Clerk.

Town Hall,  
Eccles.

18th February, 1960.

## BOROUGH OF MAIDENHEAD.

## COX GREEN HOUSING ESTATE.

## The COUNCIL invites TENDERS for the FOLLOWING WORKS:

(a) Footpath Works—Stage 1, Section 1. The Construction of Flag Paved Footways with Cold Asphalt Surfaced Verges (approx. 2,740 sq. yd.), and all incidental works.

(b) Roads and Sewers—Stage 2, Section 1. The Construction of approx. 690 lin. yd. of Roads, comprising Hardcore Foundation with temporary Hoggin Surface, Kerbing and Channelling: the provision of approx. 400 lin. yd. of 6in. dia. Foul Water Sewers, Gullies, Gully Connections, Soakaways, and all incidental works.

Drawings may be seen at and Tender documents obtained from, the Office of the Borough Engineer and Surveyor, 14 Causton Rise, Maidenhead, on payment of a deposit of Two Pounds (£2) for each of the above Contracts, which will be refunded upon receipt of a bona-fide Tender and the return of all documents.

Tenders, in plain sealed envelopes, endorsed as appropriate and bearing no mark or indication of the sender, must be delivered to me not later than Noon on THURSDAY, 17th March, 1960.

The Council does not bind itself to accept the lowest or any other Tender.

STANLEY PLATT,  
Town Clerk.

Guildhall,  
Maidenhead, Berks.

February, 1960.

## THURCOCK URBAN DISTRICT COUNCIL.

## STREET LIGHTING INSTALLATIONS.

TENDERS are invited for the ERECTION of COLUMNS and INSTALLATION of ELECTRICAL EQUIPMENT for GROUP "A" and GROUP "B" STREET LIGHTING INSTALLATIONS.

Copies of the Form of Tender, Specification and Bills of Quantities may be obtained from the Engineer and Surveyor, Council Offices, Whitehall Lane, Gray.

on payment of £2 2s. deposit, which will be refunded on receipt of a bona-fide Tender.

Tenders, in the envelope provided, must be delivered to the undersigned not later than 12 Noon on TUESDAY, 15th March, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

A. E. POOLE,  
Clerk of the Council

Council Offices,  
Whitehall Lane,

Gray.



## CONTRACTS

## BOROUGH OF NEWCASTLE-UNDER-LYME.

## ALBEMARLE ROAD HOUSING ESTATE.

## COMPLETION WORKS.

TENDERS are invited for the FOLLOWING WORKS to be carried out at the ABOVE SITE:  
Approx. 625 lin. yd. 6in. x 5in. Concrete Kerbing.  
2,100 sq. yd. Machine-laid Tarmac Surfacing.  
900 sq. yd. Footpath Surfacing.  
500 lin. yd. Concrete Edging.  
Plans may be inspected, and Tender documents obtained at the Office of the Borough Engineer and Surveyor, Lancaster Building, High Street, Newcastle, Staffs.  
Tenders must be returned to me, in a plain sealed envelope, and endorsed "Albemarle Road Housing Estate," to be received by 12 Noon on MONDAY, 14th March, 1960.

C. J. MORTON,  
Town Clerk.

## CITY OF BIRMINGHAM.

## BIRCHFIELD ROAD UNDERPASS.

TENDERS are invited by the City of Birmingham PUBLIC WORKS COMMITTEE for the CONSTRUCTION of the ABOVE-MENTIONED WORKS situated on the northern outskirts of the City of Birmingham, which are generally as follows:

- (1) The Excavation of about 51,000 cu. yd. of Earthwork.
- (2) The Construction of—  
(a) Two Concrete Retaining Walls each about 1,200ft. in length and 21ft. maximum height.  
(b) Two Overbridges with Decks of In-situ Prestressed Concrete on Mass Concrete Abutments.  
(c) Five Subways.  
(d) About 17,500 sq. yd. of Roadway, including a Road Heating Installation.  
(e) About 2,000 lin. yd. of Sewers of diameters ranging between 9in. and 72in.

(3) Associated Works.  
Tenders are invited on a fixed-price basis for a measure and value contract.

Copies of the Contract Drawings may be inspected at the Offices of the City Engineer and Surveyor, Room 339, Third Floor, Civic Centre, Birmingham, 1, or of the Consulting Engineers, SIR WILLIAM HALCROW AND PARTNERS, Stanhope House, 47 Park Lane, London, W.1 (Tel.: GRO. 8171). Copies of the Drawings, Form of Tender, Conditions of Contract, Specification and Bills of Quantities may be obtained from the Consulting Engineers on payment of a deposit of £10, which will be refunded only upon the receipt of a bona-fide Tender which is not subsequently withdrawn.

TENDERS are also invited (by the BRITISH TRANSPORT COMMISSION) for the CONSTRUCTION of the FOLLOWING WORKS, which are complementary to those detailed above—

- (1) The Reconstruction and Widening of Railway Bridge No. 13 to carry the new Birchfield Road Underpass over the railway.
- (2) The Construction of a Substructure for Shops on each side of the Bridge, and a Permanent Footbridge on the western side.
- (3) The Construction and eventual Removal of a Temporary Approach to Perry Barr Station, including a Footpath, Booking Office and Footbridge.

Copies of the Contract Drawings may be inspected at the Offices of the District Engineer, London Midland Region, British Railways, Walsall, or of the Consulting Engineers, SIR WILLIAM HALCROW AND PARTNERS, Stanhope House, 47 Park Lane, London, W.1 (Tel.: GRO. 8171). Copies of the Drawings, Form of Tender, Conditions of Contract, Specification and Bills of Quantities may be obtained from the Consulting Engineers on payment of a deposit of £5, which will be refunded only upon the receipt of a bona-fide Tender which is not subsequently withdrawn.

Tenders will only be considered from tenderers who submit Tenders for both the above works, which are to be carried out concurrently. Details of both works may be obtained from the Consulting Engineers. Tenders for both works, enclosed in the envelope provided for the purpose, must be sealed, endorsed "Tenders for Birchfield Road Underpass and for Reconstruction of Railway Bridge No. 13," and delivered to the TOWN CLERK'S OFFICE (Room No. 821), Council House, Birmingham, 1, not later than Noon on WEDNESDAY, 20th April, 1960, when they will be opened.

Neither the Corporation nor the Commission bind themselves to accepting the lowest or any Tender.

## WIMBORNE AND CRANBORNE RURAL DISTRICT COUNCIL.

## COLEHILL, PAMPHILL AND HAMPRESTON (PARTS OF) SEWERAGE SCHEME.

## CONTRACT NO. 6.

FIXED-PRICE TENDERS are invited for LAYING of 6in. and 9in. CONCRETE SEWERS with FLEXIBLE JOINTS, MANHOLES and HOUSE CONNECTIONS totalling some three miles in four areas.

Documents available from the Surveyor on payment of Three Guineas. Sealed Tenders to the undersigned by Noon, 31st March.

R. H. K. WICKHAM,  
Clerk to the Council.

Furzehill,  
Wimborne,  
Dorset,  
19th February, 1960.

## WAKEFIELD RURAL DISTRICT COUNCIL.

## WOOLLEY AND NOTTON WATER SUPPLY.

## CONTRACT NO. 5.

The above-named Council invite FIXED-PRICE TENDERS from responsible contractors for the LAYING of about 2,200 lin. yd. of 6in. and 9in. SPUN-IRON PIPES with Flexible Joints, for the CONSTRUCTION of a SMALL BOOSTER STATION and other ancillary Works at WOOLLEY, approx. five miles south of Wakefield.

Plans may be seen and Specification and Bills of Quantities obtained at the offices of the Council's Consulting Engineers, MESSRS. GRANTHAM, BRUNDELL AND FARRAN, Pillar House, 20 South Parade, Doncaster, on deposit of Three Guineas (by cheque payable to the Wakefield Rural District Council), which will be refunded on receipt of a bona-fide Tender, not afterwards withdrawn, and the return of all documents.

Sealed Tenders, endorsed "Woolley and Notton Water Supply," to be delivered to the undersigned, in a plain sealed envelope, not later than SATURDAY, 12th March, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

GERALD ARMITAGE,  
Clerk of the Council.

18 St. John's North,  
Wakefield.

## CONTRACTS

## SURREY COUNTY COUNCIL.

## HIGHWAYS AND BRIDGES DEPARTMENT.

TENDERS are invited for the IMPROVEMENT of 350 lin. yd. of the RIVER WANDLE in the Borough of Wimbledon.

The Work comprises the Demolition of an existing R.C. Measuring Weir and Recorder House, Underpinning Retaining Walls and Footbridge Abutments, and approx. 2,000 cu. yd. of Excavation.

Documents and Tender forms obtainable from the County Engineer, County Hall, Kingston-upon-Thames (where the Drawings may be inspected), should be returned to the CLERK OF THE COUNCIL by Noon, 17th March, 1960.

## COUNTY BOROUGH OF BOURNEMOUTH.

## BOROUGH ENGINEER'S DEPARTMENT.

## STREET LIGHTING COLUMNS, LANTERNS AND BRACKETS.

TENDERS are invited for the SUPPLY of the FOLLOWING—

- 650 C.I. Group "B" Columns.
  - 650 Swan-neck Brackets at Bonnington Green.
  - 650 Group "B" lanterns.
- Specification obtainable from Borough Engineer, Town Hall, Bournemouth.

The Council does not bind itself to accept the lowest or any Tender.

Tenders in a plain sealed envelope, endorsed "Tender for Street Lighting Equipment," but bearing no mark or name indicating the tender, to reach me by 9 a.m., 4th MARCH, 1960.

A. LINDSAY CLEGG,  
Town Clerk.

## BOROUGH OF GILLINGHAM.

## REBUILDING—BONNINGTON GREEN, GILLINGHAM.

FIXED-PRICE TENDERS are invited for the REBUILDING of TWO TRADITIONAL TYPE DWELLINGS of Simlified Design at Bonnington Green, Twydall/Beechings Estate, Gillingham, Kent.

Persons desirous of tendering may obtain copies of the Bills of Quantities, Specification and Form of Tender, and may inspect the Drawings and Conditions of Contract at the Borough Engineer's Department during usual office hours on or after the 29th FEBRUARY, 1960.

Applications should be accompanied by a cheque for Five Guineas (£5 5s.), made payable to Gillingham Corporation. This sum will be refunded on the receipt of a bona-fide Tender not subsequently withdrawn and on the return of all the documents issued.

Tenders, in sealed envelopes supplied, and endorsed "Tenders for Bonnington Green," must be delivered to the undersigned by not later than 12 Noon on FRIDAY, 18th March, 1960.

FRANK HILL,  
Town Clerk.

Municipal Buildings,  
Gillingham, Kent.

## BOROUGH OF CLEETHORPES.

## ANNUAL TENDERS FOR ROAD MATERIALS, ETC.

TENDERS are invited for the SUPPLY of the FOLLOWING ROAD MATERIALS, etc., required during the year ending 31st March, 1961—

- Tarmacadam.
  - Bituminous Emulsion.
  - Granite and Slag Chippings.
  - Crushed Gravel.
  - Grit and Sand.
  - Slag.
  - Concrete Kerb Channel and Paving Slabs.
  - Surface Dressing by Pressure Spraying Machine.
- Full particulars, with Specifications, Form of Tender, etc., may be obtained on application to A. B. COOPER, A.M.I.C.E., Borough Engineer, Council House, Cleethorpes.

Tenders, in a sealed envelope, to be delivered to the undersigned not later than First Post on MONDAY, the 7th March, 1960.

G. SUTCLIFFE,  
Town Clerk.

Council House,  
Cleethorpes.

18th February, 1960.

## CITY OF MANCHESTER.

TENDERS invited for the SUPPLY and FIXING of METAL BALLUSTRES and HANDRAILS at YEW TREE SECONDARY SCHOOL, Wythenshawe.

Specification and Drawings from CITY ARCHITECT, P.O. Box 488, Town Hall.

Tenders returnable by 9th MARCH.

## CITY OF MANCHESTER.

TENDERS invited for the DEMOLITION of BUILDINGS at HOLT TOWN CLEANSING DEPOT.

Specification from CITY ARCHITECT, P.O. Box 488, Town Hall.

Tenders returnable by 9th MARCH.

## CITY OF MANCHESTER.

## HOUSING DEPARTMENT.

## CONTRACT NO. 324—

## KINGSGATE, WYTHENSHAW.

TENDERS, returnable by Noon on WEDNESDAY, 23rd March, 1960, are invited for the FOLLOWING—

- (a) Manufacture, Supply and Erection of One 2,100-gallon Sectional Cast-Iron Covered Water Tank, and One Make-and-Break Connector Unit.
- (b) Supply and Fixing One Auto-pneumatic Booster Pump Equipment, 4,800 gallons per hour capacity.

Documents obtainable from the DIRECTOR OF HOUSING, Room 626, Town Hall, Manchester.

## KIRKBY URBAN DISTRICT COUNCIL.

## ANNUAL TENDERS FOR MATERIALS, 1960-61.

TENDERS are invited for the SUPPLY and DELIVERY of the UNDERMENTIONED MATERIALS for year commencing 1st April, 1960—

- (1) Concrete Flags, Kerbs and Edging.
- (2) Concrete Post and Panel Fencing.
- (3) Bitumen and Tarrad Macadam and Fine Cold Asphalt.
- (4) Tarspraying.
- (5) Petrol, Diesel and Lubricating Oils and Greases.
- (6) Paraffin.
- (7) Chestnut Fencing.
- (8) Rock Salt.
- (9) Protective Clothing, Overalls, etc.

Applications for Specifications and Forms of Tender should reach the Engineer and Surveyor, Kirkby Hall, Kirkby, near Liverpool, within 10 days of the appearance of this advertisement.

W. BYRON,  
Clerk of the Council.

## CONTRACTS

## METROPOLITAN BOROUGH OF WANDSWORTH.

## ROUPELL PARK HOUSING ESTATE, STREATHAM.

Contractors wishing to TENDER for ERECTION of 49 FLATS and MAISONNETTES in TWO SEVEN-STORY BLOCKS at BRITTON HILL should submit names to me by 16th MARCH, 1960, giving details of experience, plant and technical and supervisory staff available, together with names of two technical and two financial referees. Bills of Quantities will be issued to selected contractors in due course.

Drawings may be examined at office of MR. CLIFFORD CULPIN, O.B.E., F.R.I.B.A., M.T.P.I., 39 Doughty Street, W.C.1.

J. NOEL MARTIN,  
Town Clerk.

Municipal Buildings,  
Wandsworth, S.W.18.

## BOROUGH OF WREXHAM.

## SUPPLY AND DELIVERY OF DUSTBINS AND COVERS.

TENDERS are invited for the SUPPLY and DELIVERY to the CORPORATION DEPOT of 200 GALVANISED DUSTBINS and COVERS, of 2½ cu. ft. capacity, to British Standard Specification 792/47.

Form of Tender can be obtained on application to the Borough Engineer and Surveyor, "Bohdyfyrd," 31 Chester Street, Wrexham.

Tenders to be returned, in the envelope provided, to the undersigned not later than Noon on 10th MARCH, 1960.

PHILIP J. WALTERS,  
Town Clerk.

Gulldhall,  
Wrexham.

## BOROUGH OF KIDDERMINSTER.

## RESURFACING OF FOOTPATHS.

TENDERS are invited for the RESURFACING of approx. 2,500 sq. yd. of FOOTPATHS within the Borough.

Forms of Tender, Specification, etc., may be obtained from the Borough Engineer and Surveyor, 110 Mill Street, Kidderminster.

Completed Tenders are to be delivered in the envelopes provided not later than Noon on TUESDAY, 8th March, 1960.

The Council does not bind itself to accept the lowest or any Tender.

JOHN L. EVANS,  
Town Clerk.

Town Hall,  
Kidderminster.

## BOROUGH OF THORNABY-ON-TEES.

## FLATLETS FOR OLD PEOPLE.

TENDERS are invited for the ERECTION of a TWO-STORY BLOCK, comprising 20 Flatlets, Wards Quarters, Communal and Ancillary Rooms.

Plans prepared by RONALD COWAN, Esq., F.R.I.B.A., Chartered Architect, of 20 Finlay Street, Stockton-on-Tees, may be inspected, together with Conditions of Contract, at his office during normal hours.

Contractors wishing to Tender should apply to the Town Clerk for Bills of Quantities and Form of Tender not later than WEDNESDAY, 2nd March, 1960, enclosing a deposit of £2 2s., which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn.

When applying for Bills of Quantities, contractors should submit particulars of schemes of equivalent size undertaken by them.

Tenders must be submitted, in the envelopes provided, to the undersigned not later than the date indicated on the Form of Tender.

The Council is not bound to accept the lowest or any Tender.

A. STOCKWELL,  
Town Clerk.

Town Hall,  
Thornaby-on-Tees.

## BOROUGH OF HARTLEPOOL.

## KING GEORGE V FIELD.

## CONSTRUCTION OF BOWLING GREEN, TENNIS COURTS AND ANCILLARY WORKS.

TENDERS are invited from specialist contractors for the CONSTRUCTION of a BOWLING GREEN and TWO TENNIS COURTS at the KING GEORGE V FIELD, together with Roadway, Footpaths and other ancillary works.

Plans may be inspected at and Bills of Quantities and Forms of Tender obtained from the Office of the Borough Engineer, Borough Buildings, Hartlepool on payment of a deposit of £2, which will be refunded on receipt of a bona-fide Tender.

Tenders, in plain sealed envelopes, endorsed "King George V Playing Field," must be delivered to the undersigned not later than 12 Noon, MONDAY 28th March, 1960.

The Corporation do not bind themselves to accept the lowest or any Tender.

L. O. WILLIAMS,  
Town Clerk.

Borough Buildings,  
Hartlepool.

## DERWENT RURAL DISTRICT COUNCIL.

## DUNNINGTON SEWERAGE AND SEWAGE DISPOSAL.

TENDERS are invited, on a FIXED-PRICE BASIS, for the LAYING of about 2,900 lin. yd. of 12in., 9in. and 6in. dia. REINFORCED CONCRETE PIPE SEWERS and MANHOLES, together with House Connections for LAYING of about 470 lin. yd. of 6in. dia. ASBESTOS-CEMENT PUMPING MAIN and the CONSTRUCTION of a PUMPING STATION and SEWAGE DISPOSAL WORKS, at DUNNINGTON, near York.

Drawings may be seen at the offices of the Council's Consulting Engineers, MESSRS. FAIRBANK AND SON, M.I.N.S.T.C.E. The Gablen, 52a Bootham, York, on and after Thursday, the 25th February, 1960, during normal working hours.

Copies of the Specification, Form of Tender, Bills of Quantities, etc., may be obtained from the Engineers on deposit of Three Guineas (by cheque payable to the Derwent R.D.C.).

Tenders, in plain sealed envelopes, endorsed "Tender for Dunnington Sewerage Scheme," must reach the undersigned before 12 Noon, SATURDAY, 19th March, 1960.

The Council do not bind themselves to accept the lowest or any Tender and their acceptance of a Tender is conditional upon the approval of the Ministry of Housing and Local Government.

G. DUNN,  
Clerk of the Council.

1 Marlborough Grove,  
Fishergate,  
York.

## CONTRACTS

SURREY COUNTY COUNCIL.  
HIGHWAYS AND BRIDGES DEPARTMENT.

TENDERS invited for SURFACING approx. 12,500 sq. yds. of CONCRETE CARRIAGEWAY with BITUMINOUS MACADAM between REIGATE ROAD and GIVONS GROVE ROUNDABOUTS on LEATHERHEAD BY-PASS (A.24), and Kerbing Works. Particulars and Forms of Tender, returnable by the 12th MARCH, 1960, obtainable from the COUNTY ENGINEER, County Hall, Kingston-upon-Thames.

BOROUGH OF HENDON.  
CRAWLER TRACTOR SHOVEL.

The BOROUGH COUNCIL invites TENDERS for the SUPPLY of a CRAWLER TRACTOR SHOVEL. The form, Conditions of Tender and Specification will be issued by the Borough Engineer and Surveyor, to whom applications for the documents must be made. Tenders must be received by 15th MARCH, 1960.

R. H. WILLIAMS  
Town Clerk.

Town Hall,  
Hendon, N.W.4.

BOROUGH OF REIGATE.  
TO ROAD TARRING CONTRACTORS.

The REIGATE BOROUGH COUNCIL invites ALTERNATIVE TENDERS for SURFACE DRESSING CARRIAGEWAYS OF COUNTY AND UNCLASSIFIED ROADS within the Borough.

The price to include cleaning, tarring (not pressure spraying), gritting and rolling the tarred surface, and all necessary work in connection therewith. Full particulars and Form of Tender may be obtained upon application to the Borough Surveyor, Town Hall, Reigate.

Sealed Tenders, in the envelope provided, and endorsed "Tender for Surface Dressing," must be delivered to the undersigned not later than the First Post on SATURDAY, 12th March, 1960.

The Council does not bind itself to accept the lowest or any Tender.

HEBER DAVIES,  
Town Clerk.

Town Hall,  
Reigate.

BOROUGH OF UXBRIDGE.  
EXTERNAL PAINTING CONTRACTS.

TENDERS are invited for the EXTERNAL PAINTING of HOUSES in the FOLLOWING GROUPS:—  
Contract No. 434.—54 Houses, Hillingdon.  
Contract No. 435.—70 Houses, Hillingdon.  
Contract No. 436.—128 Houses, Harefield.  
Contract No. 437.—50 Houses, Hillingdon.  
Contract No. 438.—56 Flats, Hillingdon.  
Contract No. 439.—42 Houses, Uxbridge.  
Contract No. 440.—64 Houses, Hillingdon.  
Contract No. 441.—34 Houses, Hillingdon.

Specification, Bills of Quantities and Form of Tender may be obtained from HAROLD E. G. STRIPP A.M.I.C.E., Borough Engineer, Surveyor and Architect, 263 High Street, Uxbridge, Middlesex, on receipt of a deposit of £2 2s., to be returned on receipt of a bona-fide Tender.

Tenders may be submitted for one or more contracts, and must be returned in the envelope provided, endorsed "Tender for External Painting," bearing no other mark or indication of the sender.

Tenders must reach the undersigned not later than Noon on SATURDAY, 26th March, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

E. RONALD WEST  
Town Clerk.

265 High Street,  
Uxbridge.

CITY OF LIVERPOOL.  
WATER DEPARTMENT.

## RIVINGTON ESTATE.

TENDERS invited for CLEANING and DREDGING APPROACHES to RIVINGTON and YARROW RESERVOIRS.

Documents from Water Engineer, 55 Dale Street, Liverpool, 2, or Resident Engineer, Rivington, near Bolton.

Tenders returnable by 12 Noon, MARCH 14th, 1960.

(J.6054.) THOMAS ALKER,  
Town Clerk.

## SOWERBY BRIDGE URBAN DISTRICT COUNCIL.

## DUSTBINS AND COVERS.

TENDERS are invited for the SUPPLY and DELIVERY to the Council's Depot of 500 Plain Taper-sided DUSTBINS and COVERS, to the British Standard Specification 792/47, as follows:—

200 Rins of 3½ cu. ft. capacity,  
300 Bins of 2½ cu. ft. capacity.

The bins to be embossed "S.B.U.D.C. 1960," in letters 2½ in. high, and galvanised after manufacture. Tenders should be forwarded to the undersigned in a plain envelope, marked "Tenders for Dustbins," and should be received not later than the First Post on SATURDAY, 12th March, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

ALFRED WOMERSLEY  
Clerk of the Council.

Allan House,  
Sowerby Bridge.

## WHITSTABLE URBAN DISTRICT COUNCIL.

TENDERS are invited for the UNDERMENTIONED WORK and MATERIALS to be supplied during the year ending 31st March, 1961:

Supply of Ballast, Tarmacadam, Granite Chippings, Cement, Coke, Deck Chair Canvases, Cold Ashphalt, Bricks, Petrol, Derv, Auto Diesel, Diesel, Medium Fuel, Oil, Glazed Stoneware Pipes, Paving Slabs, Kerbs, and the Servicing of Vehicles.

Tenders are to be submitted on forms which may be obtained from the Engineer and Surveyor, The Castle, Whitstable.

The Council do not bind themselves to accept the lowest, or any, Tender, and reserve the right to accept part, or parts, of any Tender.

Tenders, in plain sealed envelopes endorsed "Tender—Supply of Materials," or "Tender—Servicing of Vehicles," to be delivered to the undersigned not later than First Post on FRIDAY, 11th March, 1960.

F. TOMLINSON,  
Clerk of the Council.

The Castle,  
Whitstable.  
20th February, 1960.

## CONTRACTS

STAFFORDSHIRE COUNTY COUNCIL.  
BIRMINGHAM-PRESTON MOTORWAY.STAFFORDSHIRE CONTRACT, SECTION "A"  
(STAFFORD BY-PASS).

The Council invites TENDERS for the CONSTRUCTION of Seven Miles of MOTORWAY and Two-thirds of a Mile of DUAL CARRIAGEWAY LINK ROAD.

The work consists of Drainage, Excavation, Construction of Twin 36ft. Carriageways and Hardshoulders, including 27 Concrete Bridges of various types. Copies of the Tender documents and Drawings may be obtained on application to the undersigned, and these will be made available to contractors early in March.

Applications must be accompanied by a deposit of £50, which will be refunded upon receipt of a bona-fide Tender and the return of all Tender documents and Drawings.

Tenders, in a plain sealed envelope and endorsed "Motorway Section 'A'" must be delivered to the undersigned not later than 10 a.m., THURSDAY, 5th May, 1960.

The Council does not bind itself to accept the lowest or any Tender.

T. H. EVANS,  
Clerk of the County Council.

County Buildings,  
Stafford.

BOROUGH OF MARGATE.  
PRIVATE STREET WORKS.

FIXED-PRICE TENDERS are invited from civil engineering contractors experienced in this class of work for the MAKING-UP of BOWES AVENUE, Margate.

Plans and Conditions of Contract may be seen during usual office hours, and Specifications and Bills of Quantities obtained from the Borough Engineer, 38 Grosvenor Place, Margate.

Tenders, in plain sealed envelopes endorsed as directed, must be delivered to the undersigned not later than 12 o'clock Noon on SATURDAY, 26th March, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

T. F. SIDNELL,  
Town Clerk.

Town Clerk's Office,  
40 Grosvenor Place,  
Margate.

CITY OF OXFORD.  
TRUNK ROAD LIGHTING.LONDON-FISHGUARD TRUNK ROAD, A.40  
(OXFORD NORTHERN BY-PASS).

TENDERS are invited for the PROVISION and ERECTION of 20 GROUP "A" SODIUM DISCHARGE LIGHTING UNITS at a mounting height of 35ft. and THREE GROUP "B" SODIUM DISCHARGE LIGHTING UNITS at a mounting height of 15ft., including the Supply and Installation of all Ancillary Equipment. Documents may be obtained on application to the City Engineer, Town Hall, Oxford.

Tenders shall be sent by Post to arrive not later than WEDNESDAY, 16th March, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

HARRY FLOWMAN,  
Town Clerk.

The Town Hall,  
Oxford.

## LITTLEBOROUGH URBAN DISTRICT COUNCIL.

## EXTERNAL PAINTING OF 122 HOUSES.

The above Council invite TENDERS for the EXTERNAL PAINTING of 82 HOUSES at the DEARNLEY ESTATE and 40 HOUSES at the SMITHY BRIDGE ESTATE, Littleborough.

Specification, General Conditions and Form of TENDER may be obtained on application to MR. A. W. HORSEY, A.I.H.S., Housing Manager, Council Offices, Littleborough.

No Tender will be received except in a plain sealed envelope endorsed "Tender—Painting Council Houses," but which must not bear any name of mark indicating the sender.

Tenders, on the prescribed form, sealed and endorsed as above, must be delivered to the undersigned not later than 9 a.m. on MONDAY, 14th March, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

R. C. CLOUGH,  
Clerk of the Council.

Council Offices,  
Littleborough.  
24th February, 1960.

## SOUTH CARDIGANSHIRE WATER BOARD.

CONTRACT NO. 15A—MAINLAYING  
ABERYRON TO LLANARTH.

The South Cardiganshire Water Board invite TENDERS from experienced contractors for the LAYING of approx. 9,000 yds. of 6 in. ASBESTOS-CEMENT and SPUN-IRON WATER MAINS, and incidental works in connection therewith.

Copies of the General Conditions of Contract, Specification, Bills of Quantities and Form of Tender may be obtained from the Engineers, MESSRS. ROFE AND RAFFETY, 9 Brewer's Green, Buckingham Gate, Westminster, London, S.W.1, on payment (by cheque only) of Two Guineas deposit, which will be returned on receipt of a bona-fide Tender and the return of all documents and Drawings supplied.

The Contract Drawings may be inspected at the Offices of the Engineers at the above address, or at the Offices of the Engineer to the Board, 36 Alban Square, Aberystwyth.

Uncoloured prints of any of the Contract Drawings (five in number) will be supplied by the Engineers to intending contractors on application, accompanied by payment (not to be included with deposit cheque) therefor at the rate of 3s. per Drawing, and an undertaking to return the same within one month of the date for submitting Tenders. Payment for these Drawings shall be either by postal order or by cheque payable to MESSRS. ROFE AND RAFFETY and will not be repayable. The Board reserve the right to withhold the deposit fee if the Drawings are not duly returned.

Tenders, on the forms supplied, with particulars of experience, must be delivered to the Clerk of the South Cardiganshire Water Board, County Office, Marine Terrace, Aberystwyth, not later than 15th MARCH, 1960, in a plain sealed envelope endorsed "Tender for Mainlaying Contract No. 15A."

The Board do not bind themselves to accept the lowest or any Tender.

J. E. R. CARSON,  
Clerk of the Board.

County Office,  
Marine Terrace,  
Aberystwyth.

## CONTRACTS

BOROUGH OF KEIGHLEY.  
BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

## MORTON—RIDDESLEN OUTFALL SEWER.

TENDERS are invited for the CONSTRUCTION of approx. 1,052 yds. of Concrete, Cast-iron and Steel Pipe Sewer varying from 14 in. to 30 in. dia., together with Manholes, and ancillary work, including a small Lattice Girder Bridge over the River Aire.

Contract documents may be obtained after 29th FEBRUARY, 1960, from the Borough Engineer and Surveyor, College Street, Keighley, on payment of a deposit of £2 2s., which will be returned on receipt of a bona-fide Tender.

Plans may be inspected at the Office of the Borough Engineer, sealed in the envelope provided, must be delivered to the undersigned not later than 10 a.m., THURSDAY, 17th March, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

H. W. SMITH,  
Town Clerk.

Town Hall,  
Keighley.

## HEBBURN URBAN DISTRICT COUNCIL.

ERECTION OF FOUR BLOCKS OF MAISONNETTES  
15 DWELLINGS AND TWO BUNGALOWS.

TENDERS are invited for the SUPPLY of the FOLLOWING:—

- (1) Bricks.
- (2) Carcassing and Dressed Timber.
- (3) Precast Floor Units.
- (4) Asphaltic Flooring.
- (5) Hardware.
- (6) Sanitary Ware.
- (7) Joinery.
- (8) General Building Materials.

No Tender Forms will be issued, but schedules of materials may be obtained on application to the Engineer and Surveyor, Council Offices, Argyle Street, Hebburn. Applicants must state the specific items for which they wish to tender.

Tenders to be received by the undersigned not later than Noon on TUESDAY, 8th March, 1960.

J. R. PASSEY,  
Clerk to the Council.

Council Offices,  
Argyle Street,  
Hebburn,  
Co. Durham.

17th February, 1960.

## Mynyddislwyn Urban District Council.

## TENDERS FOR SUPPLIES.

The Council invite TENDERS for the SUPPLY and DELIVERY of the UNDERMENTIONED for the period of 12 months from the 1st April, 1960:—

- (1) Sand.
- (2) Tarmacadam.
- (3) Chippings.
- (4) Paving Slabs.
- (5) Kerbs.
- (6) Cold Bitumen Emulsion.
- (7) Road Tar.

Forms of Tender and further details may be obtained from the Engineer and Surveyor at the undermentioned address.

Tenders, in plain sealed envelopes, endorsed "Tender for Supplies," must be received by me not later than the 14th day of MARCH, 1960.

The lowest or any Tender will not necessarily be accepted.

ARTHUR M. JAMES,  
Clerk of the Council.

Council Offices,  
Pontillanraith,  
Blackwood, Mon.  
18th February, 1960.

LEEDS REGIONAL HOSPITAL BOARD.  
TO ENGINEERING CONTRACTORS.

FIXED-PRICE TENDERS are invited for CARRYING OUT THE RECONSTRUCTION OF THE LAUNDRY at SOUTHMOOR HOSPITAL, Hemsworth.

Applications for Form of Tender and Specification and Drawings, accompanied by a deposit of £2 2s. (which will be refunded on receipt of a bona-fide Tender and other Contract documents), must be made to the Architect to the Board at the undermentioned address not later than 12 Noon on WEDNESDAY, 9th March, 1960.

Cheques should be made payable to the Leeds Regional Hospital Board and crossed.

A copy of the Drawings, Conditions of Tender and Conditions of Contract may be inspected at the Office of the Architect to the Board, or at the Office of MESSRS. R. R. JENNINGS AND PARTNERS, Consulting Engineers, 39 Byrom Street, Deansgate, Manchester.

Sealed Tenders, in the endorsed envelope provided, must be delivered to the undersigned not later than 12 Noon on THURSDAY, 7th April, 1960.

The Board does not bind itself to accept the lowest or any Tender.

WM. A. SHEE,  
Secretary to the Board.

Park Parade,  
Harrogate, Yorks.

THE COQUET WATER BOARD.  
WARKWORTH WATER TREATMENT WORKS.

## CONTRACT NO. 9—WARKWORTH PUMP HOUSE.

The Board invites TENDERS for the CONSTRUCTION of a PUMP HOUSE, situated approx. 1½ miles west of Warkworth, Northumberland.

The work consists of the Construction of a Pump House of mainly Reinforced Concrete Construction, with a Shell Roof, together with Load-bearing ancillary Storage Rooms.

The Bills of Quantities and Form of Tender may be obtained upon deposit of a cheque for Five Guineas, which will be returned to the tenderer provided he shall have sent a bona-fide Tender and shall not have withdrawn the same, from the Architect, W. B. EDWARDS AND PARTNERS, 5/6 Claremont Buildings, Eldon Place, Newcastle upon Tyne, 1, at the office of whom the drawings may be inspected during normal business hours.

Sealed Tenders, endorsed "Tender for Warkworth Pump House, Contract 9, Coquet Water Board," and addressed to the Clerk and Solicitor, The Coquet Water Board, Town Clerk's Office, G.P.O. Box 9, 14 Northumberland Square, North Shields, Northumberland, must be delivered not later than 10 a.m. on TUESDAY, 15th March, 1960.

The Board does not bind itself to accept the lowest or any Tender.

FRED G. EGNER,  
Clerk and Solicitor to the Board.

14 Northumberland Square,  
North Shields.



CONTRACTS

URBAN DISTRICT OF KEARSLEY.

ANNUAL TENDERS, 1960-61.

TENDERS are invited for the SUPPLY of the UNDERMENTIONED MATERIALS for 12 months commencing 1st April, 1960:—

- (1) Concrete Kerbs and Flags.
- (2) Coated Macadam.
- (3) Fine Cold Asphalt.
- (4) Salt Glazed Ware Pipes and Fittings.
- (5) Washed Sand and Local Broken Stone.
- (6) Petrol.
- (7) Derv.

Tenders should apply to the Surveyor at the Town Hall, Kearsley, for particulars, etc., and Tenders, in plain sealed envelopes, endorsed with the material for which the Tender is made, must be received by the undersigned not later than 16th MARCH, 1960. The Council do not bind themselves to accept the lowest or any Tender.

HAROLD GOMM,  
Clerk of the Council.

Town Hall,  
Kearsley,  
Bolton, Lancs.

**CARR'S QUIPS.**—ESTIMATES is a word that you often read—but it's the contracts that you really need.—R. J. CARR, Britain's Top Free-lance Estimator, 42 Coombe Road, New Malden, Surrey. Malden 8640.

For Contracts received too late for classification see page 977

APPOINTMENTS VACANT

LONDON COUNTY COUNCIL.

CLERKS OF WORKS REQUIRED on multi-storey housing schemes, to act in first instance as Assistant Clerks of Works, with salaries between £815 and £890, with scope for advancement to senior posts for men of ability.

Applicants should possess sound knowledge of building construction, have served full trade apprenticeship and had experience in supervisory capacity on multi-storey housing contracts. Experience in reinforced concrete work an advantage.

Application Form, returnable by 5th MARCH, from ARCHITECT, EK/29/60, County Hall, S.E.1. (283)

HOLLAND (LINGS.) COUNTY COUNCIL.

APPOINTMENT OF SENIOR ASSISTANT ENGINEER.

A.P.T. GRADE IV (£1,065-£1,220).

APPLICATIONS are invited from qualified Civil or Municipal Engineers for the ABOVE APPOINTMENT. Applicants should have had good experience in the preparation and control of road and bridge schemes. The salary will be in accordance with A.P.T. Grade IV at the starting point will be determined by qualifications and experience.

The appointment is subject to the National Scheme of Conditions of Service and to the Local Government Superannuation Acts. An essential user car allowance will be paid. The Council are prepared to contribute to cost of removal.

Further particulars may be obtained from me. Applications, in a prescribed manner, should be submitted not later than 3rd MARCH, 1960.

G. E. BETTS,  
County Surveyor.

County Hall,  
Boston, Lincoln.

8th February, 1960.

COUNTY BOROUGH OF HUDDERSFIELD.

BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

APPLICATIONS are invited for ASSISTANT ENGINEERS at a salary in accordance with Grade A.P.T. IV (£1,065 to £1,220 per annum), for work on roads, sewers, sewage works, extensions, and on general municipal engineering work.

Applicants should be Associate Members of the Institution of Civil Engineers or the Institution of Municipal Engineers.

The appointments are superannuable and subject to medical examination. Superannuation is prohibited and will be considered a disqualification.

Applications, giving age, experience, and the names of not more than three referees, should reach A. L. PERCY, M.I.C.E., Borough Engineer and Surveyor, High Street Buildings, Huddersfield, not later than SATURDAY, the 5th March, 1960.

HARRY BANN,  
Town Clerk.

Town Hall,  
Huddersfield.

February, 1960.

CITY OF BRADFORD.

CLERK OF WORKS.

APPLICATIONS are invited for the APPOINTMENT of CLERK OF WORKS (Post 172) in the Contract Housing Section of the City Engineer and Surveyor's Department, at a salary on Grade A.P.T. I (£610-£785).

Candidates must have had experience as a Clerk of Works or General Foreman in the construction of houses, and should hold the Higher National Certificate.

Application Forms, obtainable from the City Engineer and Surveyor, Town Hall, Bradford, 1, with three testimonials, must be received by the undersigned by 11th MARCH, 1960.

HARRY PATTEN,  
Town Clerk.

Town Hall,  
Bradford, 1.

FARINGDON RURAL DISTRICT COUNCIL.

ENGINEER AND SURVEYOR'S DEPARTMENT.

ASSISTANT ENGINEER.

APPLICATIONS are invited from Engineers experienced in the design and construction of sewerage and sewage disposal schemes. Salary offered will be in accordance with qualifications and/or experience, subject to a ceiling of £1,070 (Special Grade). The Council will consider the provision of housing accommodation if necessary.

Applications, stating age, experience and qualifications, with names and addresses of two referees should be sent to the undersigned on or before FRIDAY, 18th March, 1960.

C. D. READ,  
Clerk of the Council.

Council Offices,  
Market Place,  
Faringdon, Berks.

20th February, 1960.

APPOINTMENTS VACANT

METROPOLITAN BOROUGH OF CAMBERWELL.

CLERK OF WORKS.

APPLICATIONS invited for this POST in Borough Engineer and Surveyor's Department at a salary of £15 per week. The appointment is in connection with the widening of part of Lordship Lane and will be for a period of approximately six months commencing in June. Applicants must have a sound experience in setting out, levelling and construction of roadworks, including the laying of hot-rolled and mastic asphalt. Duties will include the supervision of works by contract, site measurements and reports. Applications, stating age and experience, together with names of two referees, to TOWN CLERK, Town Hall, S.E.5, by MONDAY, 7th March, 1960.

BOROUGH OF TOTTENHAM.

**BUILDING MANAGER REQUIRED.** Established post. Salary £1,250 p.a., rising to £1,405 p.a. Good managerial experience of building trade required, including maintenance and new construction, estimating, costing of building works and incentive bonus schemes.

Form and particulars from BOROUGH ENGINEER (C1), Town Hall, Tottenham, N.15, to whom applications must be delivered not later than 18th MARCH, 1960.

THURROCK URBAN DISTRICT COUNCIL.

(Population 107,100—rapidly increasing.)

ENGINEER AND SURVEYOR'S DEPARTMENT.

**ASSISTANT ENGINEER REQUIRED.** Salary A.P.T. IV (£1,065-£1,220 p.a.). Applicants should be Chartered Civil or Municipal Engineers, or have equivalent qualifications, and have extensive civil engineering experience and be capable of designing and supervising construction of major schemes. In particular, experience is desired in sewerage and sewage disposal.

Housing accommodation may be considered if successful candidate resides more than 20 miles from Thurrock. Appointment pensionable.

Applications, stating age, qualifications and experience, and quoting three referees, to the CLERK OF THE COUNCIL, Council Offices, Grays, Essex, by 8th MARCH, 1960.

Canvassing disqualifies. Relationship with members or senior officers of the Council must be disclosed.

CLACTON URBAN DISTRICT COUNCIL.

WESTERN AREA DRAINAGE—SEA OUTFALL.

CONTRACT NO. 7.

APPOINTMENT OF RESIDENT ENGINEER.

The Council invite APPLICATIONS for APPOINTMENT of RESIDENT ENGINEER, at a salary rate of £1,500 per annum, to supervise construction of 36in. dia. cast- and steel-iron sea outfall sewer and extension of 51in. dia. spun-iron sea outfall sewer, working under direction of Council's Consulting Engineers, MESSRS. JOHN TAYLOR AND SONS, of Artillery House, Artillery Row, Westminster, S.W.1.

The appointment is of a temporary nature and will be terminable by one month to the end on either side, in normal circumstances it is expected the appointment will cover 18 months, commencing on 1st May, 1960.

The successful applicant is expected to supervise, in addition, further contracts, dealing with the construction of rising mains, gravity sewers and pumping stations, that are to be awarded by the Council during the construction of the outfalls and, in this respect, there is the possibility that, by mutual agreement, the period of the appointment, as previously indicated, may be extended.

Applicants must have considerable experience in supervision of civil engineering work and, in particular, making underwater inspections.

Applications, in writing, on forms obtainable from Council's Engineer and Surveyor and the Consulting Engineers, should be sent to the Clerk of the Council, Town Hall, Clacton-on-Sea, in an envelope endorsed "Resident Engineer," and must reach him on or before FRIDAY, 11th March, 1960.

In the event of the successful applicant being a married man, the Council will be prepared to let to him, for the period of the appointment, at an economic rent, suitable housing accommodation.

CHARLES B. HEARN,  
Clerk of the Council.

Town Hall,  
Clacton-on-Sea,  
Essex.

HAVANT AND WATERLOO URBAN DISTRICT COUNCIL.

APPLICATIONS are invited for a CLERK OF WORKS (Civil Engineering), Salary A.P.T. II (£765-£880), and an ARCHITECTURAL ASSISTANT, Salary A.P.T. II (£765-£880).

Applicants for each appointment must be suitably experienced and qualified to receive a salary within the A.P.T. Grades.

Assistance will be given towards the cost of removal expenses. Housing accommodation will be provided for married applicants requiring it, and consideration will be given to the payment of a car allowance.

Forms of Application and further particulars may be obtained from the ENGINEER AND SURVEYOR, 1 Park Road North, Havant, to whom applications should be sent not later than 9th MARCH, 1960.

HARLOW DEVELOPMENT CORPORATION.

APPOINTMENT OF ASSISTANT RESIDENT ENGINEER.

APPLICATIONS are invited for the ABOVE TEMPORARY APPOINTMENT of the staff of the Resident Engineer to supervise the construction of Phase 1 of the Second Stage of the Rye Meads Purification Works, near Hoddeston, Hertfordshire, under the direction of the Consulting Engineers, MESSRS. D. AND D. M. WATSON, M.M.I.C.E., of 67 Tufton Street, Westminster, S.W.1.

The works will be substantial in extent, involving the construction of various tanks in reinforced concrete, erection of associated specialist plant, laying of pipelines, extension to the administration building, installation of power generation, compressed-air and pumping machinery, and sundry other works.

The salary will be within the £880-£1,065 per annum scale, and point of entry will be according to qualifications and experience. Superannuation scheme. Accommodation available in Harlow.

The appointment is expected to last about two years and will be terminable by one month's notice on either side.

Applications, endorsed "Assistant Resident Engineer, Rye Meads," giving details of age, qualifications and experience, together with the names of three referees, should reach the GENERAL MANAGER, Terlings, Harlow, Essex, before 7th MARCH, 1960.

APPOINTMENTS VACANT

WEST MIDLANDS GAS BOARD.

ASSISTANT ENGINEER—CHIEF ENGINEER'S DEPARTMENT.

APPLICATIONS are invited from competent Site Engineers for the POST of ASSISTANT ENGINEER to oversee and control the erection of the new Lurgi complete gasification plant which is being erected, with ancillaries, at Coleshill, Warwickshire, at a cost of £8m.

Experience in supervising large contracts covering structural and mechanical engineering will be an advantage, whilst membership of the Institution of Civil Engineers, or a similar body, is desirable.

The salary for the appointment, which is pensionable and subject to medical examination, will be within the range of £1,195 to £1,355 per annum.

Applications, stating age, qualifications and experience, together with the names of two referees, should be addressed to the INDUSTRIAL RELATIONS OFFICER, West Midlands Gas Board, 6 Augustus Road, Edgbaston, Birmingham, 15.

HERTFORDSHIRE COUNTY COUNCIL.

STEVENAGE BY-PASS.

Qualified QUANTITY SURVEYOR REQUIRED, salary £1,245 per annum, for a TEMPORARY APPOINTMENT on site for a period of about 18 months.

Applications (no forms), stating age, qualifications, present salary, with details of experience, and names of two referees, to COUNTY SURVEYOR, County Hall, by 8th MARCH, 1960.

MONTGOMERYSHIRE COUNTY COUNCIL.

HIGHWAYS DEPARTMENT.

APPLICATIONS are invited for the FOLLOWING APPOINTMENTS:

- (a) Engineering Assistant—Salary within the Special Grade (£785-£1,070 p.a.).
- (b) Junior Engineering Assistant—within A.P.T. Grade I (£610-£765 p.a.).
- (c) District Surveyor—within A.P.T. III (£880-£1,065 p.a.).

Forms of Application and Particulars of the Appointments may be obtained from the undersigned, to whom applications should be returned not later than the 7th MARCH, 1960.

P. E. WHITE,  
Clerk of the Council.

County Offices,  
Welshpool.

10th February, 1960.

POPLAR BOROUGH COUNCIL.

DISTRICT FOREMAN (HIGHWAYS AND SEWERS), MISC. V (£650-£715) PLUS LONDON WEIGHTING.

APPLICATIONS invited for ABOVE PERMANENT POST from men with practical knowledge and experience in the repair and maintenance of roads and sewers, including supervision of highways and other works undertaken by local authorities. 44-hour 5-day week.

Commencing salary in accordance with experience and qualifications.

Application Forms obtainable from BOROUGH ENGINEER AND SURVEYOR, Town Hall, Bow Road, E.3, for return by First Post on MONDAY, 14th March, 1960.

POPLAR BOROUGH COUNCIL.

MAINTENANCE SURVEYOR, A.P.T. II (£765-£880) PLUS LONDON WEIGHTING.

APPLICATIONS invited for ABOVE PERMANENT POST from persons with knowledge and experience of local authority surveying work in building maintenance section. 38-hour 5-day week (Saturday morning rota). Canteen.

Commencing salary in accordance with experience and qualifications.

Application Forms obtainable from BOROUGH ENGINEER AND SURVEYOR, Town Hall, Bow Road, E.3, for return by First Post on MONDAY, 14th March, 1960.

BOROUGH OF PRESTWICH.

BOROUGH ENGINEER'S DEPARTMENT.

APPOINTMENT OF SENIOR ASSISTANT ENGINEER.

APPLICATIONS are invited for the POSITION of SENIOR ASSISTANT ENGINEER at a salary within the Special Classes Grade (£785-£1,070), according to experience and qualifications.

Applicants must have passed the Final Examination for Associate Membership of the Institution of Civil Engineers, or the Institution of Municipal Engineers, or the Royal Institute of Chartered Surveyors.

Applications, stating age, qualifications, experience, etc., together with the addresses of two persons to whom reference may be made, should be received by the undersigned, in an envelope endorsed "Senior Assistant Engineer," as to be received not later than 11th MARCH, 1960.

C. A. CROSS,  
Town Clerk.

Town Hall,  
Prestwich, Lancs.

BOROUGH OF CHELTENHAM.

APPLICATIONS are invited for the FOLLOWING APPOINTMENTS:

- (a) Senior Engineering Assistant, Special Grade (£785-£1,070).
- (b) Engineering Assistant, Grade A.P.T. II (£765-£880).

Applications for: (a) should have passed the Final Examination of the Institution of Civil Engineers or the Institution of Municipal Engineers, and be experienced in drainage, highways and constructional works; (b) must have passed Part I of the Institution of Civil Engineers Examination or the Intermediate Examination of the Institution of Municipal Engineers, and have had a good general training and experience in Municipal Engineering.

Both appointments are subject to the National Joint Council's Conditions of Service; to one month's notice in writing on either side; and to the successful applicant's passing a medical examination and contributing to the Corporation's Superannuation Fund.

The Council will provide housing accommodation, if required, for the successful applicants.

Applications, endorsed with the name of appointment applied for, stating age, qualifications, experience, and giving the names of two referees, are to reach MR. G. GOULD MARSLAND, M.B.E., B.Sc., M.I.C.E., Borough Engineer, P.O. Box No. 12, Municipal Offices, Cheltenham, not later than SATURDAY, 19th March, 1960.

F. D. LITTLEWOOD,  
Town Clerk.

Municipal Offices,  
Cheltenham.



## APPOINTMENTS VACANT

## A D E N.

EXECUTIVE ENGINEER (TRAINING).  
PUBLIC WORKS DEPARTMENT.

Qualifications: Candidates must have a University Degree, or equivalent, recognised by the Institution of Civil Engineers; or have passed, or be otherwise exempt from, Parts I and II of the Final Examinations of the Institution of Civil Engineers, and have had at least five years' practical experience. Teaching experience and/or a knowledge of Arabic an advantage.

Duties: To organise training and instruction in the Department of the sub-professional staff.

Terms of Appointment: On contract for three tours of 18-24 months in the first instance, with gratuity on satisfactory completion of engagement of 25 per cent. of aggregate salary drawn.

Emoluments in scale £1,426-£2,004 p.a. Education and children's allowances. Free medical attention. Taxation at local rates.

Apply DIRECTOR OF RECRUITMENT, Colonial Office, London, S.W.1. Give full name, age, and brief details of qualifications and experience. Quote BCD 112/2 020/D14.

## ROYAL COUNTY OF BERKSHIRE.

APPOINTMENT OF ASSISTANT ENGINEER  
(SPECIAL CLASSES).

APPLICATIONS are invited for this APPOINTMENT within the salary range £785-£1,070 per annum, depending on qualifications and experience. The post is located at the County Surveyor's Office in Reading. Further information and Forms of Application obtainable from the COUNTY SURVEYOR, Shire Hall, Reading.

Applications to be returned by WEDNESDAY, 9th March, 1960.

## HERTFORDSHIRE COUNTY COUNCIL.

## HIGHWAYS DEPARTMENT.

## APPLICATIONS are invited for the FOLLOWING APPOINTMENTS:

- (a) Assistant Laboratory Engineer — Special Grade (£785-£1,070 p.a.).
- (b) Laboratory Assistant—Misc. Grade III (£525-£590 p.a.).

Applications (no forms supplied), stating the appointment applied for, together with age, qualifications, present salary, details of experience, and names of two referees, to be sent to the COUNTY SURVEYOR, County Hall, Hertford, not later than 1st March, 1960.

## METROPOLITAN BOROUGH OF BETHNAL GREEN.

APPOINTMENT OF ASSISTANT HIGHWAYS AND  
AND CLEANSING SUPERINTENDENT.

APPLICATIONS are invited for the ABOVE APPOINTMENT within salary within A.P.T. Grade II (£765-£880 p.a.) plus London Weighting.

Good experience in highways and sewer construction and cleansing essential.

Further particulars and Forms of Application obtainable from the undersigned, to whom completed forms must be returned by 12th March, 1960, in envelopes endorsed "Assistant Highways and Cleansing Superintendent."

F. H. BRISTOW, Town Clerk.

Town Clerk's Office,  
Town Hall, E.2.  
17th February, 1960.

## CITY AND COUNTY OF BRISTOL.

CITY ENGINEER AND PLANNING OFFICER'S  
DEPARTMENT.

## APPOINTMENT OF ASSISTANT ENGINEER.

APPLICATIONS invited for POST of an ASSISTANT ENGINEER in General Engineering Section of City Engineer and Planning Officer's Department, in Grade A.P.T. IV (£1,065-£1,220 p.a.).

Candidates should have obtained a British University degree in Civil Engineering and/or passed Associate Membership Examination of Institution of Civil Engineers, or Testamur of Institution of Municipal Engineers, together with appropriate experience for post.

Post pensionable; medical examination and probationary period of six months, except in case of an officer transferred from service of another Local Government Authority.

Housing needs of successful candidate and question of contribution towards removal expenses favourably considered.

Applications should be arranged in following order: age, nationality, and whether married or single; educational training; professional qualifications; present position; salary and date of appointment; previous posts with salaries and dates of appointment; details of experience; any further remarks in support of application; notice required to terminate present appointment; whether related to a member or senior officer of the Council; names of two referees.

Canvassing disqualifies.

Applications to CITY ENGINEER AND PLANNING OFFICER, Cabot House, Deanery Road, Bristol, 1, by 14th March.

## STEVENAGE DEVELOPMENT CORPORATION.

## APPLICATIONS are invited for the FOLLOWING APPOINTMENTS in the Chief Engineer's Department:

- (a) Engineer—A.P.T. IV (£1,065-£1,220 p.a.). Applicants should have passed the Final Examination of either the Institution of Civil Engineers or the Institution of Municipal Engineers.
- (b) Engineering Assistant—A.P.T. II (£765-£880 p.a.). Applicants should have passed Part I of the Joint Examination of the Institution of Civil Engineers and the Institution of Municipal Engineers, hold the Higher National Certificate in Civil Engineering, or hold a Degree in Civil Engineering.

The appointments offer interesting and varied engineering experience in the design, construction and supervision of roads, lighting services, sewerage and drainage.

Superannuable posts. Medical examination.

Housing will be made available in due course, where appropriate.

Applications, stating full particulars, with names of two referees, to the CHIEF ADMINISTRATIVE OFFICER, Aston House, near Stevenage, Herts., by 4th March, 1960.

**GEOFFREY WIMPEY AND CO., LTD.**, REQUIRE CIVIL ENGINEERING FOREMEN who are familiar with ground works to building sites; also men experienced in roads and sewers, and heavy civil engineering works. Willing to travel in the U.K. Good remuneration offered to the right men. Write, stating age and experience, to the Establishment Officer, 27 Hammer-smith Grove, London, W.6. (Ref. 884G.)

## APPOINTMENTS VACANT

COUNTY COUNCIL OF THE WEST  
RIDING OF YORKSHIRE.

## COUNTY PLANNING DEPARTMENT.

## APPOINTMENT OF PLANNING ASSISTANT.

APPLICATIONS are invited from suitably qualified persons for the ABOVE PERMANENT APPOINTMENT on Special Grade (salary £785-£1,070) at the Headquarters Office in Wakefield.

The successful candidate will be required to work on schemes for the reclamation of derelict land and the treatment of colliery spoil heaps. Experience of heavy earthmoving technique and of negotiations for site acquisition would be of advantage.

Applications, stating age, past and present appointments, qualifications and experience, together with the names of two referees, should be forwarded to the County Planning Officer, 71 Northgate, Wakefield, not later than 7th MARCH, 1960.

Arthur Bates, County Planning Officer.

County Planning Department,  
71 Northgate,  
Wakefield.

## COUNTY BOROUGH OF EAST HAM.

SENIOR ASSISTANT ENGINEER (GENERAL)—  
GRADE III, £880-£1,065.

London Weighting is paid in addition. Salary in excess of the minimum may be paid according to qualifications and experience.

A subsistence allowance may be granted over a reasonable period to the person appointed if unable to obtain suitable housing accommodation, necessitating the maintenance of two homes.

Further details and application form returnable by 11th MARCH, 1960, from the TOWN CLERK, Town Hall, E.6.

## BOROUGH OF TAUNTON.

## ENGINEERING ASSISTANT—A.P.T. II.

APPLICATIONS are invited for APPOINTMENT of ENGINEERING ASSISTANT in the Waterworks Department, Grade A.P.T. II (£765-£880 p.a.).

Application Forms and particulars obtainable from W. J. WONNACOTT, M.I.C.E., M.W.E. Engineer and Manager, Flook House, Station Road, Taunton, to be returned by 14th MARCH, 1960.

K. A. HORNE, Town Clerk.

Municipal Buildings,  
Taunton.

## GREENWICH BOROUGH COUNCIL.

**SEWERS FOREMAN REQUIRED.** Salary Miscellaneous Grade III, £525-£590, plus £30 London Weighting at age 26 or over. Commencing salary according to experience. Applicants must have experience of sewer construction and maintenance, and be able to handle a small sewers gang. Application forms from TOWN CLERK, Town Hall, Greenwich, S.E.10, returnable by 10 a.m. on 7th MARCH, 1960.

**CHARTERED CIVIL ENGINEER REQUIRED** as MANAGER of expanding department in a contracting company with international interests. Previous experience in office and estimating for, and supervision of, civil engineering contracts essential. This is an opportunity for a well-trained man, preferably a university graduate, to build up a worthwhile permanent career in an established company based in the provinces, with possibilities of a directorship in due course. A substantial salary, bonus on results, expenses, car allowance and a pension scheme will be offered, along with a company house at moderate rental, and removal expenses. Candidates for this post are invited to apply in own handwriting (in confidence) for further particulars, also submitting a précis of their education, experience, availability, marital status and basic salary requirement, pending possible further inquiry from an interview with the advertisers.—Write Box V.1232, "The Contract Journal."

**SITE ENGINEERS REQUIRED** for long contract in the Colchester area.—Apply General Manager, FARRANS, LTD., 39 Upper Brook Street, London, W.1. Tel.: GROSVENOR 48106.

**A. MONK AND CO., LTD.**, Warrington, Lancs., REQUIRE SITE ENGINEERS for major projects in and around the north-western, north-eastern and south-west Midlands areas. Permanent and progressive posts. Superannuation scheme in operation.—Applicants, in confidence, stating age, full details of experience and qualifications, etc.—Please reply to Mr. H. HUDSON, Personnel Department, A. MONK AND CO., LTD., Padgate, Warrington, Lancs.

**SENIOR ESTIMATOR REQUIRED** for tendering on civil engineering work of all types. Previous experience essential. Bonus and pension schemes. Fine prospects. Permanent position.—Apply: ROBERT MCGREGORS AND SONS, LTD., Midlands Office, Turnoaks Lane, Chesterfield.

## SHELLABEAR PRICE, LTD.

REQUIRE experienced SITE ENGINEERS for major roadworks in Lincolnshire and Elsewhere.

SHELLABEAR PRICE, LTD.,

Auckland House,  
New Zealand Avenue, Walton-on-Thames, Surrey.

**A.M.I.C.E. REQUIRED**, aged about 35, for virile and expanding firm. Must be first-class engineer and estimator with the drive, personality and administrative ability needed to produce results; capable of controlling throughout medium-sized road, sewer, bridge, etc., contracts from tendering, setting-out, site measurements to final certificate. Prospects unlimited. A man of the right calibre, even if not academically qualified, would also be considered. Write, giving fullest particulars and salary required, to FARMLOE AND MCVIE, LTD., 10 High Street, Welwyn, Hertfordshire.

**SURFACING CONTRACTORS REQUIRE** an ASSISTANT to MANAGER in London area. Must have knowledge of estimating, supervision of macadam and asphalt contracts and prepare final accounts.—Write, stating previous experience and salary required, Box V.1178, "The Contract Journal."

**CLERK OF WORKS REQUIRED** on building projects, London area, Midlands and Scotland. Experience of reinforced concrete essential.—Write, giving particulars of experience and salary required, to Box V.1231, "The Contract Journal."

**AGENTS REQUIRED**, fully experienced in control of construction from start to finish, working from head office for: (1) Schools, factories, houses, and similar public and private building; (2) roads, sewers and other civil engineering works. Excellent terms and prospects for right men. Bonus and pension schemes in operation.—Applications to: WINTON HAYES, LTD., Biggleswade, Beds.

## APPOINTMENTS VACANT

**GENERAL FOREMAN REQUIRED** by national contractors for speculative housing in the Reading and Southampton areas. Permanent well-paid pensionable positions for experienced men.—Full particulars to Box V.1195, "The Contract Journal."

**CIVIL ENGINEERING ESTIMATORS REQUIRED** by SHEPHARD, HILL AND CO., LTD., to work from London office. Preference will be given to Engineers having practical knowledge, age between 30-40 years. Excellent prospects for experienced men able to work on own initiative. Top salary and allowances will be paid to the successful applicants.—Write, giving full details, to Managing Director, SHEPHARD, HILL AND CO., LTD., 25/27 Central Chambers, W.S.

**NATIONALLY** known plant hire company, opening new offices and works in the Manchester area, REQUIRE the services of a fully experienced man to take charge of the hire department and work under area manager. Must be conversant with the full range of contractors' plant and machinery, hire rates, wages, records, etc. Preference would be given to men with local connections, but this would not preclude other applicants with the necessary experience. Profit-sharing and pension scheme in existence. Present employees of company have been informed of this vacancy.—Please write, stating age and full details of experience, to Box V.1188, "The Contract Journal."

## ENGINEER/ESTIMATOR

**REQUIRED** for large building and civil engineering contractors. Several years' experience of site work essential, combined with considerable enthusiasm for estimating and tender stage planning. Age 30 to 40, plus qualifications in estimating, and good salary and conditions and entry into superannuation scheme after 12 months' service.—Applications, which will be treated in the strictest confidence, to THE MITCHELL CONSTRUCTION CO., LTD., Wharf Works, Peterborough.

BOX V.1176, "THE CONTRACT JOURNAL."

**QUANTITY SURVEYORS REQUIRED** by major firm of building and civil engineering contractors with national interests. Permanent appointments with excellent opportunities for advancement; good salary and conditions and entry into superannuation scheme after 12 months' service.—Applications, which will be treated in the strictest confidence, to THE MITCHELL CONSTRUCTION CO., LTD., Wharf Works, Peterborough.

**SENIOR AND JUNIOR ENGINEERS AND MEASURING SURVEYORS** are required for building contracts in England. These are permanent appointments with good prospects. Bonus and superannuation scheme in operation.—Applications, which will be dealt with in strict confidence, must give details of age, experience, qualification, and salary required, and should be addressed to Personnel Officer, TARMAC CIVIL ENGINEERING, LTD., Ettingshall, Wolverhampton.

**CIVIL ENGINEER**, experienced in site work, concrete control, and preferably with some knowledge of concrete piles, REQUIRED by national firm of building and civil engineering contractors. Applicants should have passed parts one and two of the I.C.E.—Write, giving full details, to Box V.1264, "The Contract Journal."

## SENIOR SURVEYOR

A vacancy exists with well-known building and civil engineering contractors in the West Midlands for a SENIOR SURVEYOR with sound knowledge and experience of interim valuations and final accounts. A salary range of £1,250-£1,500 will be offered to the applicant of proved ability, initiative and drive. Pension and bonus schemes in operation.—Full particulars to:

BOX V.1197, "THE CONTRACT JOURNAL."

**FOREMAN FITTER REQUIRED** by nationally known plant hire company opening new offices and works in the Manchester area. Must be conversant with the full range of medium-size contractors' plant and equipment. This is a permanent job for the right man: fixed salary would be paid, with participation in profit-sharing and pension scheme or, if preferred, hourly rate.—Please write, stating age and full details of previous experience, to Box V.1189, "The Contract Journal."

**AGENT AND SITE ENGINEER REQUIRED** for road contracts, by expanding firm of contractors. Top salary and prospects for men with ambitions.—Apply GALLIFORD AND SONS, LTD., Wolvey, Hinckley, Leicester.

**A FIRM** of public works contractors, specialising in Post Office ductwork, REQUIRE a first-class TRAINED and experienced driver and estimator with ambition. Applicant must be young and willing to lodge in any part of the country as required. State age, references, etc., in first instance, to Box V.1127, "The Contract Journal."

**FOREMAN REQUIRED** immediately for south-western area. Experienced in general road work, drainage, etc. Permanent position. Reply Box V.1212, "The Contract Journal."

## COST CLERKS

**REQUIRED** for hydro-electric project, Iran. Salary up to £200 per month tax free. Two-year contract. Free travel and medical attention.—Applications from single men should be forwarded to:

BOX V.1319, "THE CONTRACT JOURNAL."

**JUNIOR SURVEYOR REQUIRED** by civil engineering and building contractors in Middlesex. Applicants must be capable of preparing site measurements for interim/final accounts and sub-contractors. Good prospects for initiative and drive. —Write, giving full details of experience, age, and salary required, to Box V.1196, "The Contract Journal."

**TAKER-OFF REQUIRED** by national contractors in their West Middlesex office. He will be required to assist Chief Estimator in connection with lump-sum tenders, including housing. This is a permanent and progressive appointment, with scope for right man. Write Box V.1223, "The Contract Journal."

**HENRY OSMAN AND CO., LTD.** REQUIRE experienced SENIOR AGENTS, SUB-AGENTS, ENGINEERS, FOREMEN AND GANGERS for civil engineering contracts in the South of England. Staff pension scheme.—Applications, stating age, qualifications, salaries, and references, to the General Manager, HENRY OSMAN AND CO., LTD., Winchester Road, Southampton.

## APPOINTMENTS VACANT

**CIVIL ENGINEERS** REQUIRED by contractors for reinforced concrete and road construction in Midlands. Permanent positions for satisfactory applicants, with participation in superannuation scheme after trial period. —Reply, with details of previous employment and date available, to Box V.1241. "The Contract Journal."

**CIVIL ENGINEERS** REQUIRED by contractors for reinforced concrete and road construction in Midlands. Permanent positions for satisfactory applicants, with participation in superannuation scheme after trial period. —Reply, with details of previous employment and date available, to Box V.1241. "The Contract Journal."

## CIVIL ENGINEERS—INDIA

Applications are invited for vacancies on a heavy civil engineering project in India as follows:

## SENIOR ENGINEER

With considerable contracting experience as agent, or as senior engineer on large projects, to take charge of construction in a major area with turnover of approx. £100,000 per month. Salary in the region of £2,750 p.a. tax free.

## SECTION ENGINEERS

28-35 years of age, with contracting experience on medium to large projects as engineer or sub-agent. Salaries in the region of £2,500 p.a. tax free. Tours are for 18 months on a single basis, though for the senior appointment only family accommodation may be available at a later date. A site bonus scheme is in operation. —Please write, giving brief details of experience and qualifications, to:

The Personnel Officer,  
THE CEMENTATION CO. LTD.,  
20 Albert Embankment, London, S.E.11.

**HUSSEY, EGAN AND PICKMERE, LTD.**, have vacancies for **SUB-AGENTS AND SETTING-OUT ENGINEERS** on civil engineering contracts in England and Wales. Previous experience essential. —Apply to Head Office, 24 Calthorpe Road, Edgbaston, Birmingham, 15, giving details of previous experience and stating age and salary required.

**PLANT MANAGER** REQUIRED to take charge of plant department of medium-sized firm of building and civil engineering contractors. Only personnel with previous experience in handling a plant department and with appropriate administrative experience should apply. A car will be provided and the position will not involve living away from home. The appointee will carry a four-figure salary and will be permanent after a probationary period, and the applicant will then be considered for superannuation benefits. —Please write, giving full particulars, to:

WM. EAVES AND CO., LTD., Vicarage Lane, Blackpool.

**SENIOR AGENT**, age 30-40, with experience of gas and water main laying. REQUIRED by medium-sized firm of public works contractors for contracts in London and Home Counties. Permanency for suitable applicant. Non-contributory pension scheme. State age, experience and salary required.

Write Box V.1243, "The Contract Journal."

## BUILDING MANAGER

**WM. TOWNSON AND SONS, LTD.** REQUIRE a **MANAGER** to take charge of their main building activities in the North of England. The successful applicant, who will be aged between 45 and 55, will have had a wide variety of building experience, including multi-story flats, houses, schools, industrial and domestic work, and civil engineering work. He should also be able to use the services of a planning department and have acquaintance with modern arrangement techniques in the building industry. The commencing salary will be in the range of £1,500-£1,750, and there will be further prospects of advancement for the right man. There is a pension and life assurance scheme, and a company car will be provided. Applications, stating education, age and experience, and marking the envelope BM/2, should be sent, in confidence, to:

The Secretary,  
WM. TOWNSON AND SONS, LTD.,  
Higher Swan Lane, Bolton.

**GENERAL FOREMAN/SITE SUPERVISOR** REQUIRED for civil engineering contracts in West Africa with an old-established British firm. Applicants should have experience overseas of working with local labour, and preference will be given to men with previous experience in West Africa. Permanent position with good conditions, 18-month tours. —Write, giving details of experience, etc., to Ref. EGS, Box V.1252. "The Contract Journal."

**AGENTS, SUB-AGENTS AND SETTING-OUT ENGINEERS** REQUIRED for civil engineering contracts in England and Wales. —Apply in writing, stating age, qualifications, experience and salary required, to Box V.1263, "The Contract Journal."

## TURRIFF CONSTRUCTION CORPORATION, LTD.

REQUIRE several **SITE ENGINEERS**. Must be experienced setting out and technical control of reinforced concrete structures, including foundations. Competent in use of theodolite and level. Attractive salary, allowances and conditions. Good future prospects. Pension, bonus schemes. —Write:

Group Personnel Manager,  
TURRIFF CONSTRUCTION CORPORATION, LTD.,  
Budbrooke Road, Warwick.

**ESTIMATOR**. — Applications are invited by civil engineering and building contractors for the position of **ESTIMATOR** in their head office. Applicants must have had previous site experience and preferably a number of years' experience in the preparation of tenders for heavy civil engineering and industrial building contracts, including reinforced concrete-framed structures. The position is permanent and carries a good salary, bonus, and conditions, and entry into the superannuation scheme will be arranged after 12 months' service. —Applications, giving full details of previous experience, will be treated in strictest confidence, and should be addressed to THE MITCHELL CONSTRUCTION CO., LTD., Wharf Works, Peterborough.

**OFFICE MANAGER** REQUIRED for Builders' office in Hammersmith. Experienced in industry and able to keep costs and accounts. —Reply to Box V.1147, "The Contract Journal," quoting Ref. QRS/7.

**ASSISTANT CIVIL ENGINEER** REQUIRED for site work on Hammersmith flyover contract. —Apply, stating qualifications, to: MARPLES, RIDGWAY AND PARTNERS, LTD., 2 Lygon Place, Victoria, S.W.1.

## APPOINTMENTS VACANT

**EXPERIENCED**, qualified **ENGINEER** REQUIRED to take full site responsibility of £1m. prestressed concrete structure. Salary commensurate with responsibility. Progressive position with growing organisation. —Full particulars to Box V.1222, "The Contract Journal."

**FIRM** of leading civil engineering contractors REQUIRE **COMPETENT MAN** to manage the central stores department attached to their plant depot near London. —State experience and salary required to Box V.1255, "The Contract Journal."

**SITE ENGINEER** REQUIRED by small contractor. Able to set-out and control road and sewer works. Excellent prospects to energetic young man. Car provided. —Write Box V.1225, "The Contract Journal."

**OFFICE MANAGER** REQUIRED by small contractor. Capable of handling wages, accounts, etc., for various sites. —Write Box V.1226, "The Contract Journal."

## JUNIOR SURVEYOR

For the head office of C. J. SIMS, LTD., building and civil engineering contractors. At 20-25. Applicants must be experienced in all phases of building surveying, from site measuring to preparation of final accounts. —Apply, in confidence, giving age, complete details of training, experience and salary required, to:

C. J. SIMS, LTD.,  
2 Victoria Street, S.W.1.

**SALES ENGINEER**. — Experienced Sales Engineer REQUIRED to sell the Bristol range of earth-moving equipment in Central England. A thorough knowledge of, and active connection with, the trade are essential. Superannuation scheme. Salary and commission. Car provided. —Write, giving full information of previous experience, age, qualifications, etc., to H. A. SAUNDERS, LTD., 14-20 The Butts, Worcester.

**THE NORTHWEST CONSTRUCTION CO., LTD.**, Ruthven Road, Liverpool, 21, invite applications from **AGENTS, SUB-AGENTS, FOREMEN-AGENTS**, fully experienced in Post Office duct laying and manhole building contracts. The positions are permanent and progressive. Good salary and bonus, and a superannuation scheme in operation. Successful applicants required to travel to different areas throughout the U.K. —Apply in writing, with full details of previous experience.

**SENIOR and JUNIOR SITE ENGINEERS** are REQUIRED for contracts in England and South Wales. These are permanent appointments with good prospects. Bonus and superannuation schemes in operation. —Applications, which will be dealt with in strict confidence, must give details of age, experience, qualifications, and salary required, and should be addressed to Personnel Officer, TARMAC CIVIL ENGINEERING, LTD., Ettingshall, Wolverhampton.

## SENIOR SURVEYOR

Applications are invited from top-class ambitious quantity surveyors for the post of **SENIOR SURVEYOR** in our rapidly expanding company. Applicants should have a wide experience of working with well-known contractors, and preferably including reinforced concrete-framed structures. If you are young, seeking promotion and wanting a good salary, this is your job. Details of age, experience and qualifications should be sent to:

The Chief Estimator,  
THE LONDON FERRO-CONCRETE CO., LTD.,  
Maxted Road, Maryland Avenue,  
Hemel Hempstead, Herts.

**AGENT** REQUIRED for medium-sized building contract in Lancashire area. Good prospects for first-class man. —Reply, stating age, experience and salary required, to M. J. GLEESON (CONTRACTORS), LTD., C.E. Dept., Harewood House, London Road, North Cheam, Surrey.

**QUANTITY SURVEYORS** REQUIRED by associate company of national building and civil engineering contractors in Leeds. Permanent appointments with excellent opportunities for advancement: good salary and conditions and entry into superannuation scheme after 12 months' service. —Applications, which will be treated in the strictest confidence, to ARTHUR WATERMAN, LTD., Moorland Works, Gelderd Road, Leeds, 12.

**SITE CLERK** for road contracts in London area. Must be experienced. Wages, timekeeping, cost records and materials checking. —Write age, experience and salary required, to Secretary, PATRICK AND SON (CONTRACTORS), LTD., 455 Old Ford Road, London, E.3.

## SENIOR ESTIMATOR

REQUIRED immediately in London head office. Must be fully conversant with all aspects of estimating for large civil engineering works and capable of taking charge of complete tenders. Good progressive salary. Five-day week. Pension fund. Luncheon club. —Write details age and experience:

BALFOUR, BEATTY AND CO., LTD. (I.A.M./201),  
66 Queen Street, London, E.C.4.

**SITE AGENTS** REQUIRED for school and telephone exchange building contracts North Wales and Cheshire. Applicants please do not apply unless capable of high-class economic work. Advancement to contracts manager in due course. Pension scheme. State age, salary required, and send fullest details of experience, to Box V.1229, "The Contract Journal."

**CIVIL ENGINEER**, under 30, University Graduate or A.M.I.C.E., REQUIRED in head office of long-established firm of Gunite specialists. Varied and interesting employment offered in the diagnosis of the defects in structures, the preparation of remedial schemes and tendering for same, planning and administration of contracts. Applicants must have had some years' site experience with general contractors. Permanency and good prospects for a man with ability and drive, able to work on own initiative. Pension scheme. —Reply, in confidence, stating age, education, experience and present salary, to: T. WHITLEY MORAN, M.I.C.E., 5 Old Hall Street, Liverpool, 3.

**VACANCIES** occur for **GENERAL FOREMEN**. Must be fully conversant with the construction of schools, public buildings and other large contracts, especially concrete structures involving reinforcing and shuttering. Theoretical qualifications an advantage. Salary £750 per annum. Building company operates in the south-west part of Warwickshire and adjoining counties. —Application forms available from Box V.1209, "The Contract Journal."

## APPOINTMENTS VACANT

**ASSISTANT ESTIMATING SURVEYOR** REQUIRED by national firm of contractors at their Midlands office. Must be experienced in the preparation of bills of quantities and be able to prepare material schedules for ordering. —Write, giving full particulars of age, experience and salary required, to Box V.1194, "The Contract Journal."

**A COMPANY** in the civil engineering plant field REQUIRES a **GENERAL SALES MANAGER**. The successful applicant will be based on London, and will be responsible for co-ordinating the company's earth-moving sales organisation in U.K. This is a permanent and progressive appointment, requiring a sound background in the civil engineering and allied industries, and will interest only those earning not less than £2,000 per annum at present. —Replies should be addressed to Box V.1261, "The Contract Journal," and will be treated in strictest confidence.

**EARTHMOVING** equipment distributors REQUIRE **SALES REPRESENTATIVES** for Scotland. Applicants should have previous sales experience in this field. Prospects for suitable men are excellent. —Reply, giving full details, to Box V.1262, "The Contract Journal."

## SIR ALFRED MCALPINE AND SON, LTD.

REQUIRE **SITE ENGINEERS** for contracts in the Midlands. Applicants should be between 23 and 30 years of age, and have had a minimum of three years' site experience. —Apply, in writing, to:

SIR ALFRED MCALPINE AND SON, LTD.,  
49 Waterloo Road, Wolverhampton.

**EXPERIENCED GENERAL FOREMAN** REQUIRED for roads, sewers and houses on large private development, Bolton area. Available early March. Only first-class men capable of working to programme with full control need apply. —Write Box V.1258, "The Contract Journal."

**EXPERIENCED GENERAL FOREMAN** REQUIRED initially for a job in South-East London; bricklayer preferred. This is a permanent, well-paid position with an expanding company, with admission to a pension scheme after a probationary period. —Write Box V.1253, "The Contract Journal."

**GENERAL FOREMAN** REQUIRED by national contractors for speculative housing in the Kent Coast area. Permanent, well-paid, pensionable position for experienced man. —Full particulars to Box V.1254, "The Contract Journal."

**CIVIL ENGINEERS**. —Large firm of civil engineering contractors REQUIRE **Young Engineers** for sites at home and abroad. The positions offer good prospects for the right men. —Write, giving experience to date, to Box V.1290, "The Contract Journal."

**QUANTITY SURVEYORS** REQUIRED by British civil engineering contractor, for large public works contract in West Africa. Write brief details experience, to Box C 957/P.E., Romano House, 399/401 Strand, London, W.C.2.

## CIVIL ENGINEER/AGENT

Experienced in large diameter main laying and bridge construction work. Applicants must be able to preplan and administer with complete efficiency a large plant and labour force and to direct auxiliary site staff. —Write, with details of age, experience and present salary, to:

BOX 152, EDMONDS ADVERTISING,  
2 Walker Street, Edinburgh, 3.

**INDUSTRIAL AND AGRICULTURAL SALES REPRESENTATIVE** REQUIRED. Must have wide knowledge of industrial equipment, also knowledge of agricultural equipment an advantage. Permanent position for live and conscientious representative. Existing connections, particularly in Hants., Berks. and Bucks., an advantage. Write to: WARD AND SONS, LTD., Egham, Staines 54111/2/3.

**SENIOR ASSISTANT CIVIL ENGINEER**, age 26-36 approx., REQUIRED in consulting engineer's office in Nigeria. Successful applicant required to act as Deputy to resident partner. Mainly roadworks and bridgework. Fifteen months' tour with three months paid U.K. leave. Salary £1,800 approx. Furnished accommodation provided. —Apply R. TRAVERS MORGAN AND PARTNERS, 161/6 Fleet Street, London, E.C.4.

**CONTRACT SUPERVISOR/SURVEYOR** REQUIRED by well-known floor specialists, to supervise and handle contracts for flooring generally. —Write, stating age, experience and salary expected, to Box V.1287, "The Contract Journal."

**CIVIL ENGINEER**. —Keen young Assistant Engineer REQUIRED for large shield-driven low-pressure compressed air tunnel contract in Hull. —Apply MITCHELL BROS., SONS AND CO., LTD., 167 Victoria Street, London, S.W.1. Telephone: Victoria 4978.

## WORKSHOP FOREMAN

WANTED for new plant depot approx. 20 miles north of London. Applicants must be fully experienced in the overhaul and repair of crawler tractors, crawler and mobile cranes and attendant plant allied to the civil and mechanical engineering trades. Only first-class men need apply. Subsistence will be paid, where applicable, during probationary period, then housing accommodation can be offered. Permanent, progressive position, also non-contributory pension scheme carrying life assurance benefits. —Apply, in writing, giving full details, and quoting Ref. G6773, to:

The Personnel Manager,  
CONSTRUCTORS JOHN BRIN, LTD.,  
C.I.B. House, Eastbourne Terrace, Paddington,  
London, W.2.

**OFFICE MANAGER/CASHIER**. —Applications invited by national building and civil engineering contractors from experienced men for responsible positions on large contracts. Duties will include wages account, checking invoices, prime costs, etc. Applicants will be required to be covered by fidelity insurance. Contracts situated in Midlands area. —Write with full particulars to Box V.1313, "The Contract Journal."

**OFFICE MANAGER** REQUIRED by a subsidiary of a British contracting firm, for work in Nigeria. Previous overseas experience essential; must be capable of setting-up and controlling the whole of the administration of a new branch office from its inception. The post is a permanent one, and the applicant must be willing to work in any part of the world. Excellent salary and conditions available to the right man. Write, giving full details, to Ref. EGS, Box V.1279, "The Contract Journal."



## APPOINTMENTS VACANT

**CONTRACTS MANAGER REQUIRED** by medium-sized company to control area office, 40 miles London, with approx. £700,000 work on hand. Gross salary and commission should reach £2,700. Only first-class man with proven record. — Write Box V.1286. "The Contract Journal."

**TECHNICAL CLERK** of senior capacity REQUIRED for large speculative building department. Capable of keeping records and multi-filing. Excellent prospects; superannuation scheme. — Apply in writing, giving age, experience, and salary required, to SIR LINDSAY PARKINSON AND CO., LTD., 6 Lambeth Road, London, S.E.1.

## BUILDING AND CIVIL ENGINEERING CONTRACTORS

Long established in North Devon, have vacancies for the following staff:

- (1) **GENERAL MANAGER**  
Aged 40-50 years.
- (2) **QUANTITY SURVEYOR or QUALIFIED ENGINEER**  
To deal with interim certificates and final accounts.

With essential experience in both building and civil engineering work.

(3) **ESTIMATORS AND ENGINEERS**  
Vacancies in the Midlands.  
All applications will be treated in the strictest confidence.—Please make application in your own handwriting, giving details of your previous experience and salary expected, to:

Managing Director,  
**JAMES DENNIS AND SON, LTD.,**  
Knowle, Braunton, North Devon.

**SENIOR GENERAL FOREMAN.**—Applications invited by national building and civil engineering contractors from experienced men in reinforced concrete work and civil engineering type contracts. Must have had previous recent experience in charge of large-scale jobs with national contractors, able to work with minimum of supervision and thoroughly conversant with all modern methods and plant, and possessing drive and initiative. A good salary and terms to suitable applicants.—Write full details to Box V.1314. "The Contract Journal."

**YOUNG ENGINEER.** with at least three years' site experience REQUIRED as Assistant to Contracts Manager with small but expanding contracts department in South-East. Excellent opportunity for keen man.—Write with full details to Box V.1280. "The Contract Journal."

**EXPERIENCED SHORTHAND-TYPIST** REQUIRED for senior position, by established building and civil engineering organisation. Salary according to experience. L.V.s. — Please write, stating age, previous experience, giving names of two referees, to Box V.1281. "The Contract Journal."

## SECRETARY/ACCOUNTANT

A progressive and expanding firm of civil engineering contractors in the north of England invites applications for the top-level appointment of a **SECRETARY/ACCOUNTANT**. This appointment could lead to a directorship for the right man. A qualified accountant of progressive outlook, with a knowledge of Contract Law, and capable of advising on financial matters at board level, is required. Candidates aged 35-45, must have at least five years' accountancy experience in industry and have proven ability in instituting and developing costing and financial controls. A knowledge of building and civil engineering is an advantage. A salary of £1,600-£1,800, together with a contributory pension scheme and other substantial benefits, is available to the successful candidate. No information will be disclosed to our client without the permission of the candidate.—Applications, giving details of qualifications and experience, should be sent to:

Appointment No. 71.  
**ASSOCIATED INDUSTRIAL CONSULTANTS, LTD.,**  
Bush House, Aldwych, London, W.C.2.

**GENERAL FOREMAN** REQUIRED for roads and sewer contract in North Staffordshire. Good salary and incentive bonus paid to suitable man. Permanent position after trial period.—Write Box V.1282. "The Contract Journal."

**QUANTITY SURVEYOR** REQUIRED for working in conjunction with contractor's own architectural department, working mainly on single- and multi-storey prefabricated buildings. Duties will include taking-off and preparation of bills of quantities for all trades, including external works and dealing with final accounts. Bonus and pension schemes in operation.—Apply, giving full details and salary required, to W. SIMMS SONS AND COOKE, LTD., Haydon Road, Sherwood, Nottingham.

**COMPETENT GENERAL FOREMAN** WANTED for London area contracts.—Write, with full particulars, to FOSTER AND DICKSEE, Ltd., 1 Baker Street, W.1.

## MARTIN COWLEY, LTD.

Applications are invited from fully qualified and experienced personnel to fill the following vacancies on contracts throughout the United Kingdom:

- PROJECT MANAGERS
- SENIOR AGENTS
- SENIOR ENGINEERS
- SENIOR CIVIL ENGINEERS
- GENERAL FOREMEN
- SITE OFFICE MANAGERS
- WAGES/COST CLERKS
- TIMEKEEPERS
- MATERIAL CHECKERS

Applicants must be fully mobile.—Apply, in writing with full details of past career, to:

**MARTIN COWLEY, LTD.,**  
112 Jermyn Street, London, S.W.1.

**WATES, LIMITED.** — **REINFORCED CONCRETE DESIGNER/DETAILERS.** Vacancies occur in our Engineering Department for Designer/Detailers and Detailers on interesting reinforced concrete work, both in situ and precast. Successful candidates will be specialist firm in this field is desirable but not essential. Working conditions are first-class. There is a profit-sharing bonus scheme after a probationary period. Five-day week, superannuation scheme and subsidised canteen. Positions are progressive and offer excellent experience to energetic men interested in developing up-to-date techniques of design and construction. Salary ranging from £700 to £1,100 per annum, according to experience.—Please apply in writing, stating age, training, experience and present salary, to Personnel Manager, 1260 London Road, Norbury, S.W.16.

## APPOINTMENTS VACANT

**PLANNING OFFICER (F.15),** with a successful family business in South Yorkshire. A qualified Building Surveyor, trained in work study and planning, is required to head the Planning Department in the Construction Manager for the introduction and application of method study and production planning, as well as for developing the company's bonus incentive scheme. The applicant should be enthusiastic about the planning of building work, the preparation of production drawings, and other job instructions, and the study of site working methods with the Foreman. He should be experienced in setting targets for the work involved in all types of construction, and be interested in improved methods of bonusing.—Write, giving details of age, education, qualifications, experience, and salary required, to THE ADVISORY SERVICE FOR THE BUILDING INDUSTRY, 82 New Cavendish Street, London, W.1.

**GENERAL FOREMAN.** — Old-established national building contractor in Midlands area has vacancies for top-grade General Foremen for large building contracts to commence shortly. Carpenter and joiner trained and having several years' experience, recent years for successfully carrying out large contracts embracing factories, office blocks, public buildings, reinforced concrete, etc., with minimum of supervision. Fully conversant with modern techniques, and possessing drive and initiative. Top-rate salary and allowances to suitable applicants. — Write Box V.1315. "The Contract Journal."

## D. T. BULLOCK AND CO., LTD.

Seek to appoint a **CONTRACTS MANAGER.** The company is engaged in heavy civil engineering and industrial building work and has achieved a sound record of growth over the past few years. Further developments are taking place in one of its areas, i.e., South Wales. The increasing scope of work has created a first-class opportunity for an outstanding man as **CONTRACTS MANAGER**—an opportunity to take control of existing contracts and to develop the area further. In this task he will enjoy the backing of a live and progressive organisation whose standards are high. This is a senior appointment calling for the following qualifications: A university degree and/or A.M.I.C.E. membership, experience with civil engineering contractors and in similar position of responsibility; ambition, imagination and the ability to initiate and develop sizeable operations with the minimum of outside control; age 30-40 (approx.). Salary and other conditions will be attractive.—Applications are invited; they should be addressed to:

Managing Director,  
**D. T. BULLOCK AND CO., LTD.,**  
Aldridge, Staffs.

**SITE ENGINEERS.**—Building and civil engineering contractor in Midlands area, of national repute, has vacancies for several Engineers for a variety of contracts to start shortly. Applicants should be experienced in setting-out, construction, all external services, reinforced concrete and records. The positions are suitable for young, ambitious men and offer much scope for early promotion. A good commensurate salary and terms to suitable applicants.—Write full details to Box V.1316. "The Contract Journal."

**GEOPHYSICIST** REQUIRED to take over the technical work of a newly formed department in a firm engaged on site investigations and soil surveys. The applicant should have had good experience of planning and carrying out site surveys by the electrical resistivity method and be capable of interpreting the results and writing reports. Experience in other branches of site investigation would be an advantage. Applicants must hold a current driving licence.—Write Box V.1308. "The Contract Journal."

**FOLLOWING VACANCIES** for Engineering Assistants occur within Henry Boot Group of Companies: (a) **ENGINEERING ASSISTANTS (Civil)**, for work in head office, engaged upon housing development and site layouts, road construction estimates and quantities; (b) **ENGINEERING ASSISTANT (Civil)**, for preplanning, design of temporary structural works and carrying out site surveys; (c) **SITE ENGINEERS** with general all-round experience on civil engineering work, including setting-out, interim and final certificates and all the above positions are progressive, permanent and pensionable, and offer opportunities for advancement. Profit-sharing scheme in operation.—Apply Director, HENRY BOOT AND SONS (CIVIL ENGINEERING), LTD., Banner Cross Hall, Sheffield, 11.

## SENIOR CIVIL ENGINEER

**BRITISH LIFT SLAB, LTD.** (a new subsidiary of Robert M. Douglas (Contractors), Ltd.), specialising in the lift slab method of multi-storey construction, requires a **CONTRACTS ENGINEER/MANAGER**. The successful candidate will be a graduate and/or A.M.I.C.E., with sound knowledge of production of high-quality reinforced concrete and extensive experience in civil engineering and building, including planning and organisation of construction work. The applicant must be accustomed to a practical approach to constructional problems, and will be required to supervise the field activities of the company. The post is permanent and pensionable, and offers considerable opportunities to an intelligent, enthusiastic and energetic applicant.—Apply, in confidence, stating age, experience and qualifications, to:

The Secretary,  
**BRITISH LIFT SLAB, LTD.,**  
395, George Road, Birmingham, 23.

**CONSTRUCTION MANAGER (F.14),** with a successful family business in South Yorkshire. Applicants should be qualified in management and have technical knowledge and experience in civil engineering applied to building and housing. This position has responsibility to the Managing Director for the planning and control of all types of major and minor construction work, of joinery and precast concrete, as well as plumbing and painting. The successful man in this position is assured of a seat on the board in the near future and will be required to assume the responsibilities of General Manager within the next 5-6 years. The post is pensionable; a car is provided, and housing accommodation can be arranged.—Write, giving details of age, education, qualifications, experience, and salary required, to THE ADVISORY SERVICE FOR THE BUILDING INDUSTRY, 82 New Cavendish Street, London, W.1.

**PLANT ENGINEER** REQUIRED as Assistant to Plant Manager based in Watford. An engineering apprenticeship holder of 10 years of general workshop practice, and field experience of heavy civil engineering plant repair and maintenance essential. Successful applicant will be required to assist in the control of the plant depot and to visit contractors throughout the United Kingdom. Permanent position and attractive terms. Age between 26 and 30.—Write with full details of experience, stating present salary, to Box V.1324. "The Contract Journal."

## APPOINTMENTS VACANT

**SOILS LABORATORY** REQUIRE following qualified Engineers for work based in Sheffield but covering Midlands, Lancs. and Yorks.: (a) **SENIOR ENGINEER** with geological training, experience in electrical resistivity surveys and normal site investigation methods; (b) **ENGINEER** with experience in soil testing techniques, laboratory work, and some outside survey and borehole work. Permanent posts in progressive organisation; pensionable and with profit-sharing scheme for suitable applicants.—Apply Director, GEOTECHNICAL AND CONCRETE SERVICES, LTD., Banner Cross Hall, Sheffield, 11.

**JUNIOR CIVIL ENGINEER** urgently REQUIRED for Resident Engineer's staff on Mombasa Island sewerage scheme. Salary range commences at £1,210 per annum plus gratuity.—Applications to HOWARD HUMPHREYS AND SONS, Consulting Engineers, Victoria Station House, Victoria Station, London, S.W.1.

## TARMAC CIVIL ENGINEERING, LTD.

**SENIOR DESIGNER**  
REQUIRED to head an expanding design department engaged in design of reinforced concrete, steel and temporary structure. Applicants must be of good personality and have organising ability.

**SENIOR PLANNING ENGINEER**  
REQUIRED to head an expanding planning department engaged in detailed planning of civil engineering and building contracts. Applicants must have previous experience in a similar capacity and be fully conversant with modern planning and constructional techniques.

**ASSISTANT PLANNING ENGINEER**  
REQUIRED for work in detail planning of civil engineering contracts at tender and pre-contract stage. Applicants must have previous experience of planning work in addition to considerable civil engineering construction experience.

**ASSISTANT PLANNING ENGINEER**  
REQUIRED for work in detail planning of building contracts at tender and pre-contract stage. Applicants must have had previous experience of planning work in addition to building construction experience.

**SENIOR BUILDING ESTIMATOR**  
REQUIRED. Should have had experience of competitive estimating for all types of major building projects and a sound knowledge of detail price analysis, and be able to submit completed tenders with calculations for final discussion with the head of the department.

**BUILDING ESTIMATOR**  
REQUIRED, aged 25 to 35 years. Must be capable of estimating for all types of major building projects and have a sound knowledge of price analysis. Applicants, which must be of detail price analysis, must give details of age, experience, qualifications and salary required, and be addressed to:

The Personnel Officer,  
**TARMAC CIVIL ENGINEERING, LTD.,**  
Ettingshall, Wolverhampton.

**BUILDING** contractor REQUIRES JUNIOR for estimating department. Excellent prospects for intelligent and conscientious youth.—Apply, in writing, to the Personnel Officer, TARMAC CIVIL ENGINEERING, LTD., Ettingshall, Wolverhampton.

**QUANTITY SURVEYOR.**—Permanent position at head office of national contractor in Midlands area for experienced Surveyor to visit large contracts to prepare progress payment certificates and final accounts, including sub-contractors. Past previous experience in covering the Midlands and Midlands rate of salary will be paid to suitable applicant. Write full details to Box V.1317. "The Contract Journal."

**LARGE** Midlands contractors are enlarging their design office dealing exclusively with shuttering and formwork. Good opportunities for experienced DESIGNERS with experience in modern shuttering techniques and able to produce working drawings to give economic results. Attractive salaries, bonus and pension scheme. Modern office in pleasant surroundings. — Write Box No. DL.4508, c/o White's, 72 Fleet Street London E.C.4.

**IMPORTANT** contractor of national repute is to appoint two **TRAINEE BUILDING MANAGERS**, one of each of main offices in Southern and Midlands regions. Good background of industry essential. Young men of good presence, strength of character and determination, willing to accept two years' serious training. Excellent prospects. Expanding organisation. Age about 25 years. Commencing salary £1,000 p.a. Pension and bonus schemes. — Write full personal details, previous training, qualifications and experience, state preference Midlands or South, to Box No. DL.4514, c/o White's, 72 Fleet Street, London, E.C.4.

## CONTRACTS NEGOTIATING ENGINEER

**BRITISH LIFT SLAB, LTD.** (a new subsidiary of Robert M. Douglas (Contractors), Ltd.), specialising in the lift slab method of multi-storey construction, requires an experienced **CIVIL ENGINEER**. Applicants should preferably be graduates and/or A.M.I.C.E., with considerable experience in building and civil engineering and in negotiating contracts. The successful candidate will be responsible for sales promotion, initial contracts, and liaison with the company's design and estimating sections to contract stage. The post is permanent and pensionable, and offers considerable opportunities to an intelligent, enthusiastic and energetic applicant.—Apply, in confidence, stating age, experience, qualifications, to:

The Secretary,  
**BRITISH LIFT SLAB, LTD.,**  
395, George Road, Birmingham, 23.

**YOUNG MAN** REQUIRED as CEMENT AND CONCRETE TESTER at site near Waltham Abbey. Duties to include testing of cement, concrete aggregates and plastic and set concrete. Preference will be given to an applicant with previous experience or general experience of laboratory work, but training would be given to the chosen applicant if necessary. — Please write to Box V.1307. "The Contract Journal."

**JUNIOR CIVIL ENGINEERS** urgently REQUIRED for London office of HOWARD HUMPHREYS AND SONS, for the design of works of water supply and main drainage. Salary £700-£1,000 per annum 5-day week; superannuation. Applications to HOWARD HUMPHREYS AND SONS, Consulting Engineers, Victoria Station House, Victoria Street, London, S.W.1.

**SITE ENGINEERS** and **GENERAL FOREMEN** experienced in roads, sewers and reinforced concrete REQUIRED for Gloucester and Oxford areas. Permanent appointments with an expanding company. Good prospects for advancement. — Write, in first instance, full particulars, including salary required, to WILLIAM T. NICHOLLS, LTD., St. Paul's Road, Gloucester.



## APPOINTMENTS VACANT

**DIVISIONAL GENERAL MANAGER** for the new industrial division of one of the largest Fordson main dealers in the North. Total emoluments in first year not less than £2,250, rising in due course to an anticipated £4,000 p.a. through profits participation. A company car will be provided and there is a contributory pension scheme which will be supplemented by a top hat scheme after an initial period. The scope of the appointment is unusually wide and the prospects of successful operations with substantial earnings in the foreseeable future are very real. It is also possible that the division may be formed into a subsidiary company, of which the General Manager will become a director. The General Manager's principal responsibilities will be, firstly, to take over and expand an extensive main dealership in Fordson tractors for agricultural purposes and, secondly, to organise and build up the distribution and servicing of Fordson-powered industrial equipment. The General Manager will be in complete charge of the division and will be subject only to Board policy control. Qualifications desired include strong commercial sense and clear management ability allied with sound knowledge of, and extensive personal contacts in, the contracting and civil engineering industries. Knowledge of contractors' plant and its uses is also necessary. An engineering qualification would be of advantage. Preferred age 30-35. Please write briefly to the undersigned, quoting Ref. No. 630, to Ashley Associates, Ltd., Peter House, Manchester, 1, Ashfield Road, to the appointment. The strictest confidence will be observed and no details of candidates will be passed to clients without candidates' permission.

**CIVIL ENGINEERING CONTRACTORS REQUIRE** a person, preferably with qualifications, who is capable of carrying out the duties of **SAFETY OFFICER** on an engineering project. Good salary immediately. Write Box V.1299, "The Contract Journal."

**A FIRM** of London consulting engineers specialising in Irrigation invite applications for vacancies of **ENGINEERS**, age 30 to 35. Irrigation experience desirable but not essential. University degree and A.M.I.C.E. The posts will carry salaries in the range of £1,500 to £1,700 per annum. Written applications to reach Box V.1318, "The Contract Journal," not later than 26th February 1960.

**CASHIER REQUIRED** by civil engineering contractors, for contract in Liverpool area. Experience essential. Write to Box V.1146, "The Contract Journal," quoting Ref. QRS/G.

**CIVIL ENGINEERS: SENIOR, ASSISTANT and JUNIOR ENGINEERS REQUIRED** by civil engineering contractors, for contracts in Scotland. Good salary and condition of employment. Write, stating age and full particulars of experience, to Box V.1312, "The Contract Journal."

**D. T. BULLOCK AND CO., LTD.**, invite applications for vacancies in **AGENTS, ENGINEERS, GENERAL FOREMEN, SECTION FOREMEN, GANGERS, BRICKLAYERS, CARPENTERS**, for industrial building, road works, reinforced concrete and sewerage contracts in the Midlands and South Wales. Apply in writing in the first instance giving brief details of experience in Contracts Manager, D. T. Bullock and Co., Ltd., Northgate, Aldridge, Staffs.

**GRADUATE ENGINEER/AGENT or ENGINEER**, qualified by experience in works of civil engineering construction, age 30-35, immediate salary in appointment in the estimating and planning department. Appointment offers considerable scope for promotion. Write Contracts Manager, ROTINOFF CONSTRUCTION, LTD., 125 Pall Mall, London, S.W.1.

For Advertisements received too late for classification see page 977

## APPOINTMENTS WANTED

**BUILDING AND CIVIL ENGINEERING PLANT and TRANSPORT MANAGER**, experienced in control of mechanical plant, supervision of site servicing, operators, workshop repairs and stores, **SEEKS POSITION of RESPONSIBILITY**. Keen costs man. Resident in S.W. London area. Write Box W.1239, "The Contract Journal."

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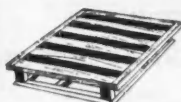
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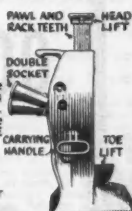
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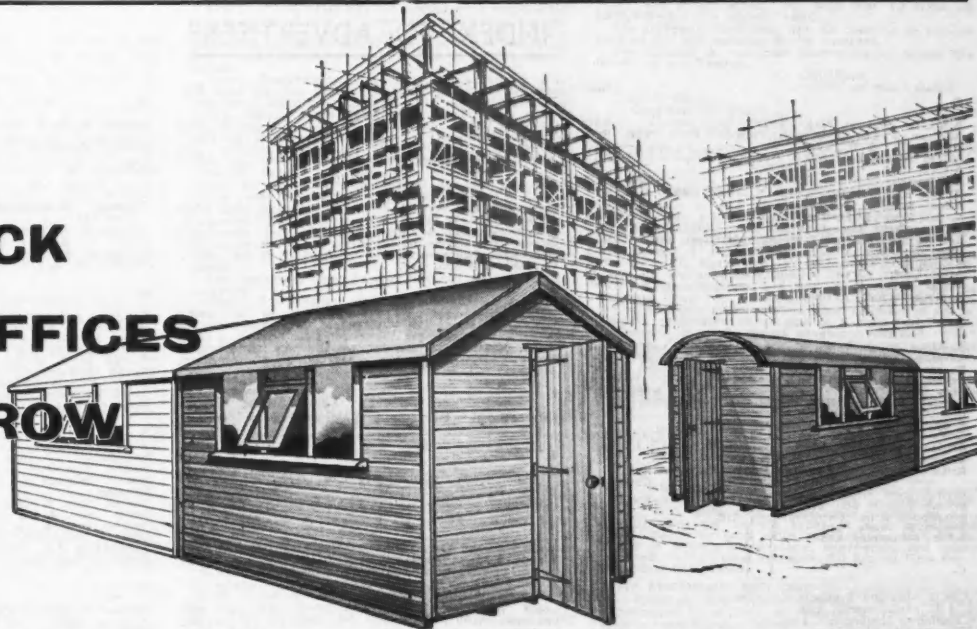
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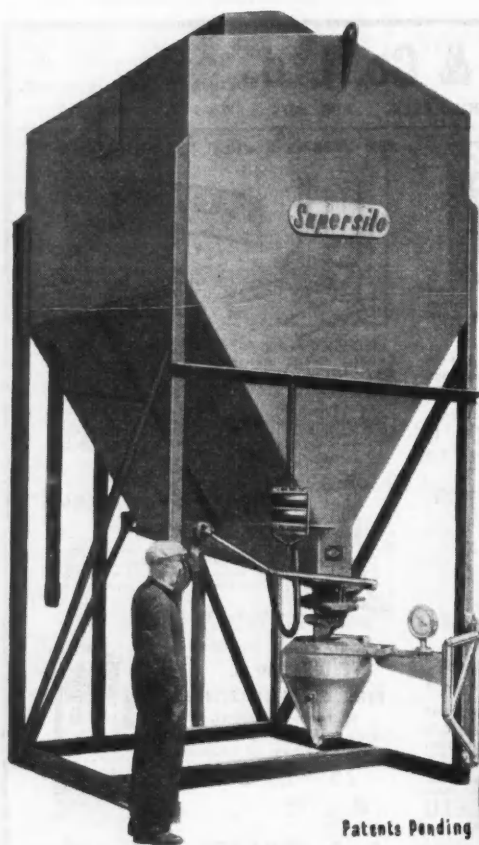
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# Advertisements received too late for Classification

## COUNTY BOROUGH OF WEST HARTLEPOOL.

### YEARLY REQUISITIONS.

TENDERS are invited for the SUPPLY and DELIVERY to the Corporation Depot, Burn Road, of the UNDERMENTIONED GOODS and MATERIALS during the year ending March 31st, 1961, as per forms numbered:

- (1) Footpaths and Road Materials.
- (2) Dry Slag, Bituminous Slag, etc.
- (3) Stoneware Goods and Road Gullies.
- (4) Metal Castings.
- (5) Mechanical Haulage.

Specifications and Forms of Tender may be obtained from Mr. J. STANLEY MILES, Borough Engineer, and standard samples seen upon application at the Corporation Depot, Burn Road, West Hartlepool.

The contractor will be required to submit samples on request.

Tenders, addressed to the Chairman of the Works Committee, must be delivered to my Office by Noon on MONDAY, March 14th, 1960.

No Tender will be received unless it is enclosed in a plain sealed envelope, endorsed as to the description of materials, etc., tendered for, but shall also bear my name or indicating the tender.

The Corporation does not bind itself to accept the lowest or any Tender.

ERIC J. WAGGOTT,  
Town Clerk.

Municipal Buildings,  
West Hartlepool.  
19th February, 1960.

## BOROUGH OF HENDON.

ACCOMMODATION ROAD (AT REAR OF PREMISES NOS. 131-151 DEANS LANE AND NOS. 141A-161 HALE LANE, EDGWARE).

The BOROUGH COUNCIL invites TENDERS for the MAKING-UP of the ABOVE-MENTIONED ROAD under the Provisions of Part IX of the Highways Act, 1959.

The Form and Conditions of Tender, Specification and Bills of Quantities will be issued by, and Plans may be inspected at the Offices of the Borough Engineer and Surveyor, to whom applications for the documents must be made not later than TUESDAY, the 8th March, 1960, accompanied by a deposit of £2 2s., which will be returned on receipt of a bona fide Tender, on the form provided, and not subsequently withdrawn. Cheques should be made payable to Hendon Corporation.

Tenders must be received by the 22nd MARCH 1960.

This invitation to tender is subject to certain terms and conditions, particulars of which will be forwarded to each tenderer.

R. H. WILLIAMS,  
Town Clerk.

Town Hall,  
Hendon, N.W.4.

## CLAYTON-LE-MOORS URBAN DISTRICT COUNCIL.

The above Council invite TENDERS for the SUPPLY of the FOLLOWING MATERIALS, etc., which may be required during the year ending March 31st, 1961:—  
Concrete Flags and Concrete Kerbs, etc.  
Granite and Limestone Chippings.  
Tarred Granite, Limestone and Slag.  
Tarspraying Compounds.  
Filled Pitches.

Contractors will be required at all times during the existence of their contract to pay trade union rates of wages and to comply with any conditions, and the resolution passed by the House of Commons on October 14th, 1946, regarding fair wages, etc., will be incorporated in the Form of Tender.

Forms of Tender to be obtained on application to the Surveyor, Council Offices, Clayton-le-Moors and must be delivered, in plain sealed envelopes endorsed "Tender for Materials," to the undersigned not later than THURSDAY March 10th, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

A. WILSON,  
Clerk of the Council.

Council Offices,  
Clayton-le-Moors.  
9th February, 1960.

## LITTLEHAMPTON URBAN DISTRICT COUNCIL.

### PRIVATE STREET WORKS.

CONTRACT NO. 10—HOLMES LANE (PART).

TENDERS are invited for the MAKING-UP of PART of Holmes Lane, 110ft. in length. The works comprise Re-forming and Tarmac Surfacing 10ft. wide, 242 sq. yd. of Carriageway, 36 lin. yd. of Kerbing, 75 lin. yd. of Channelling, Two Gullies and Connections, 71 sq. yd. of Paved Slab Footways, Verges, Two Garage Crossings, One Street Light, and other incidental works.

Particulars may be obtained from the Engineer and Surveyor on payment of a returnable deposit of £1 1s. Tenders must reach me by Noon on THURSDAY, 24th March, 1960.

D. WILLOUGHBY,  
Clerk of the Council.

Council Offices,  
Littlehampton, Sussex.

**PLANT ENGINEERING DRAUGHTSMAN**, 20-25 years of exp. REQUIRED by civil engineering contractors.—Apply in writing to Director (Equipment), WEST'S PILING AND CONSTRUCTION CO., LTD., Bath Road, Harmondsworth, Middx.

**BUILDING GENERAL FOREMAN**. Only men with experience on contracts ranging from £50,000 to £500,000 need apply. Applicants must be willing to travel in the United Kingdom. Permanency offered and pension scheme.—Apply, stating experience and remuneration required, to THE MITCHELL CONSTRUCTION CO., LTD., Wharf Works, Peterborough.

**ENGINEER/AGENT REQUIRED** for civil engineering contracts in Home Counties.—Write, stating exp. experience, and salary required, to JOHN COCHRANE AND SONS, LTD., Poyle Road, Colnbrook, Bucks.

**CONTRACTS MANAGER REQUIRED** for supervision of housing contracts in South Wales area. Applicants must be fully conversant with the organisation of large and small contracts running simultaneously. Car provided.—Full particulars to General Manager, D. R. V. CONSTRUCTION (SOUTH WESTERN), LTD., 9 Broad Quay, Bristol, 1.

**PUBLIC WORKS GANGERS REQUIRED**. Must be good all-round men, experienced in concrete, deep excavations, lullies track work, etc. Good hours, subsistence, bonus, and free transport to site.—Apply JOHN HOWARD AND CO., LTD., Tittesworth Reservoir, Leek, Staffs. Blackshaw 312.

## CITY OF SHEFFIELD.

### CONTRACTS FOR SUPPLIES.

TENDERS are invited for the UNDERMENTIONED SUPPLIES to the several departments of the Sheffield Corporation as from April 1st, 1960, viz.:—  
Groceries, Meat, Tea, Coffee, Bread, Flour, Provisions and Bacon.

Persons wishing to tender may obtain the necessary forms on application to the Town Clerk, Town Hall, Sheffield.

Tenders must be delivered to the Town Clerk, Town Hall, Sheffield, not later than 10 a.m. on FRIDAY, 11th March, 1960.

Tenders received after the date and time specified will not be considered.

The Council do not undertake to accept the lowest or any Tender, and reserve the right to accept a Tender in its entirety or in respect of certain items or portions of items comprised therein.

JOHN HEYS,  
Town Clerk.

Town Hall,  
Sheffield.  
February 25th, 1960.

## DISS URBAN DISTRICT COUNCIL.

### DRAINAGE.

CONTRACT NO. 4.

TENDERS are invited for the CONSTRUCTION of the FOLLOWING WORKS:—

- (a) Approx. 35yd. of 24in. dia. Concrete Sewer, together with special Manholes and Connections to existing Sewers.
- (b) Approx. 780yd. of 27in. dia. Concrete Sewer and Manholes.
- (c) Some Minor Alterations to the Treatment Works.

The work is to be carried out in accordance with the Specification and Drawings prepared by the Consulting Engineers, to the Council, Messrs. JOHN TAYLOR AND SONS, Artillery House, Artillery Row, London, S.W.1.

Copies of the Specification, Bill of Quantities and Form of Tender may be obtained from the Offices of the Consulting Engineers upon payment of £5 (cheque only, made payable to the Council), which will be returned on receipt of a bona fide Tender, not subsequently withdrawn. The Drawings may be seen at the Offices of the Engineers or at the Council Offices. Prints of the Drawings may be purchased from the Engineers.

Tenders, in plain sealed envelopes, endorsed "Drainage—Contract No. 4," but bearing no distinguishing mark indicating the tender, must be delivered at my Office not later than Noon on MONDAY, the 28th March, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

C. REED WILLIAMSON,  
Clerk to the Council.

Council Offices,  
Diss, Norfolk.

## MELFORD RURAL DISTRICT COUNCIL.

### WATER MAINS EXTENSIONS.

CONTRACT NO. 15.

FIXED-PRICE TENDERS are invited from responsible and experienced civil engineering contractors for the PROVISION AND LAYING of about 3,100yd. of 4in. ASBESTOS-CEMENT WATER MAINS at FENSTEAD END, BOXTED, about one mile north of Glemsford, Suffolk.

Plans, Specification and Bills of Quantities may be seen at the Offices of the Council's Consulting Engineers, MESSRS. ELLIOTT AND BROWN, Stanley House, Pelham Road, Nottingham, and copies of the Specification, Bill of Quantities and Form of Tender may be obtained from them on deposit of £5 4s. (by cheque payable to the Melford Rural District Council), which will be refunded on receipt of a bona fide Tender, not afterwards withdrawn, and the return of all documents loaned to the contractor within seven days' notice informing him that a Tender has been accepted.

Sealed Tenders, endorsed "Water Mains Extensions, Fenstead End, Boted," to be delivered to the undersigned, in a plain sealed envelope, not later than the First Post on SATURDAY, the 2nd April, 1960.

The lowest or any Tender will not necessarily be accepted.

Note: The works will be subject to the final approval of the Ministry of Housing and Local Government after submission of an estimate based on a provisional approval of the tender.

J. A. SHAW,  
Clerk of the Council.

Council Offices,  
Chilton House,  
Newton Road,  
Sudbury, Suffolk.  
22nd February, 1960.

## FYLDE WATER BOARD.

TENDERS are invited for Two M.S. Hopper-bottomed STORAGE TANKS, each of 7,000 gallons capacity together with steel supporting structure. Further particulars from ENGINEER TO THE BOARD, Sefton Street, Blackpool. Tenders to be received not later than 18th MARCH, 1960.

**W. AND C. FRENCH, LTD.**, Civil Engineering and Building Contractors, REQUIRE an ESTIMATOR, 25-35, with experience of preparing tenders on bills of quantities for various types of work. Based on depot offices at Colchester, Essex.—Apply in writing, stating age, experience, and salary required, to Personnel Manager, 50 Epping New Road, Buckhurst Hill, Essex.

**DRAUGHTSMEN REQUIRED**—Apply, sending full particulars of experience and salary required, to THE GLOUCESTER STONE CO., LTD., 203 Barnwood Road, Gloucester.

**DRAUGHTSMAN/ESTIMATOR**—Vacancy with makers of chain link fencing, fencing steelwork and gates. Applicants should state age and experience. Commencing salary about £600 p.a., according to qualifications. Pension scheme; 5-day week; house available.—PROVE BROS., LTD., Rickmansworth Road, Watford, Herts.

**JUNIOR ENGINEERS WANTED** for site work near London and in estimating department. Permanent, progressive positions.—Reply, giving details of training and experience, to RUDDOCK AND MEIGHAN, LTD., Harrow View, Weststone, Middlesex.

**GENERAL FOREMAN REQUIRED** for private estate development in Shrewsbury. About 100 houses annually. All trades, including roadmaking and sewerage.—Apply FLETCHER ESTATES (HARLESCOTT), LTD., Whitchurch Road, Shrewsbury. Tel. 4436.

## BOROUGH OF ELLESMERE PORT.

### CONTRACT NO. 290.

### CONSTRUCTION OF ROADS AND SEWERS—TOWN CENTRE.

TENDERS are invited for the CONSTRUCTION of ROADS AND SEWERS for the Town Shopping Centre, comprising 21,200 sq. yd. of Carriageway, 8,200 sq. yd. of Footpaths and 2,500 lin. yd. of Sewers varying from 24in. to 60in. dia.

Contract documents obtainable from the Borough Engineer and Surveyor, Queen Street, Ellesmere Port, on the 25th FEBRUARY, 1960.

Sealed Tenders, in the plain official envelope provided, must reach the undersigned, by Post, by not later than 5 p.m. on TUESDAY, the 22nd March, 1960.

The Council do not bind themselves to accept the lowest or any Tender.

R. J. BERNIE,  
Town Clerk.

Municipal Offices,  
Ellesmere Port,  
Cheshire.  
19th February, 1960.

## CHORLEYWOOD URBAN DISTRICT COUNCIL.

### MAKING-UP OF PRIVATE STREETS—CHESTNUT AVENUE (PART) AND WYATTS ROAD, UNDER THE HIGHWAYS ACT, 1959 (CODE OF 1952).

TENDERS are invited on a fixed-price basis for the MAKING-UP of the ABOVE STREETS, comprising:—

Chestnut Avenue (Part):  
Approx. 120yd. lin. 6in. Storm Water Sewer.  
Approx. 320yd. lin. 9in. Precast Kerb.  
Approx. 300yd. lin. Precast Edging.  
Approx. 1,000yd. sup. Tarmacadam Paving (Carriageway).

Approx. 760yd. sup. Tarmacadam Paving (Footpaths).

Together with ancillary works.

Wyatts Road:  
One Storm Water Apron with 12in. Outfall.  
Approx. 300yd. lin. 6in. Storm Water Sewer.  
Approx. 320yd. lin. 9in. Storm Water Sewer.  
Approx. 90yd. lin. 12in. Storm Water Sewer.  
Approx. 10 Manholes.  
Approx. 950yd. lin. Precast Kerbing.  
Approx. 850yd. lin. Precast Edging.  
Approx. 3,100yd. sup. Tarmacadam Paving (Carriageway).

Approx. 1,900yd. sup. Tarmacadam Paving (Footpaths).

Together with ancillary works.

The Plans, Sections and Conditions of Contract may be inspected at the Council Offices, Chorleywood House, Chorleywood, during normal office hours.

Bills of Quantities, Specifications and Forms of Tender may be obtained from Mr. W. E. HANDS, M.R.S.N., M.A.P.H.I., Surveyor of the Council, Council Offices, Chorleywood House, Chorleywood, Herts., upon payment of Two Guinea deposit, which will be returned upon the receipt of a bona fide Tender and the priced Bill of Quantities.

Tenders must be on the form supplied by the Council, accompanied by the Specifications and priced Bill of Quantities, and must be delivered to me at the Offices of the Council at the undermentioned address, and endorsed "Tender for Chestnut Avenue (Part) and Wyatts Road," not later than 12 Noon on SATURDAY, 15th March, 1960.

The successful contractor will be required to provide sureties for the purpose of the contract.

The Council do not bind themselves to accept the lowest or any Tender.

R. DARRAH,  
Clerk of the Council.

Council Offices,  
Chorleywood House,  
Chorleywood, Herts.  
22nd February, 1960.

## NORTHAMPTON RURAL DISTRICT COUNCIL.

### 1960 BUILDING PROGRAMME.

TENDERS are invited for the ERECTION of 52 BUNGALOWS, 12 HOUSES and Three CLUB-ROOMS on the FOLLOWING SITES:—

Denton 11, Great Houghton 4, Little Houghton 17, Harpole 8, Kilsingbury 12, Milton 10, Rotherthorpe 2.

Plans, Specifications and Bills of Quantities can be obtained from R. J. MILLER, A.I.C.S., Archdeacon 1 Cheyne Walk, Northampton, upon payment of £3 3s. deposit, returnable on receipt of a bona fide Tender.

Tenders, in plain sealed envelopes, marked "1960 Building Programme," are to be deposited with the undersigned by not later than 10 a.m., WEDNESDAY, 13th April, 1960.

The Council do not bind themselves to accept the lowest or any Tender, and reserve the right to accept any Tender for single or combination of sites.

CLIFFORD E. JONES,  
Clerk of the Council.

Council Offices,  
1 Cheyne Walk,  
Northampton.  
19th February, 1960.

## W. AND C. FRENCH, LTD.

Civil Engineering and Building Contractors, REQUIRE an ESTIMATOR, 25-35, with experience of preparing tenders on bills of quantities for various types of civil engineering work. Based on head office at Buckhurst Hill, Essex. Apply in writing, stating age, experience, and salary required, to Personnel Manager, 50 Epping New Road, Buckhurst Hill, Essex.

**SITE ENGINEERS REQUIRED** for contracts in Home Counties and West Midlands. Must be fully experienced in setting-out, measuring and preparing interim certificates.—Write to HADSPHALTIC CONSTRUCTION CO., LTD., Johnston House, Hatchlands Road, Redhill, Surrey.

**AGENT/GENERAL FOREMEN REQUIRED**. Applications invited from first-class men.—Write, giving full details of past experience, and salary, etc., to PERCY BILTON, LTD., Bilton House, Ealing, W.5.

**SUB-AGENTS REQUIRED** for expanding civil engineering division of large public company. We offer permanent positions to the right men, with excellent prospects for advancement. In return for good salary we require enthusiasm, loyalty and initiative. We have a progressive staff policy, operating superannuation and profit-sharing schemes.—If you are interested, send for application form and details of the positions, in strict confidence, to A. C. BRYANT, Managing Director, C. BRYANT AND SON, LTD., 65 Whitmore Road, Birmingham, 10.

**WANTED, two CONTRACTORS' PLANT FITTERS** for plant and transport maintenance department. Top rate for fully skilled men. Permanency. Houses available. Free pension scheme.—FRED WATKINS (ENGINEERING), LTD., Coleford, Glos.

# elstree

# hire

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PAVERS**

**BATCH PLANTS**

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ROLLERS**

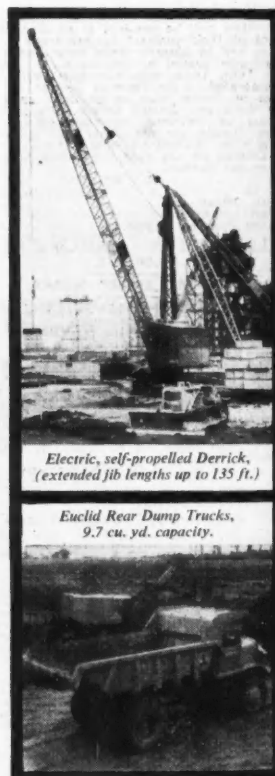
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Chester Road, Boreham Wood, Hertfordshire

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*Electric, self-propelled Derrick,  
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*Euclid Rear Dump Trucks,  
9.7 cu. yd. capacity.*



# THE CONTRACT JOURNAL

INCORPORATING  
THE BRITISH CONSTRUCTIONAL ENGINEER AND THE CONTRACTOR

## THE CONTRACT JOURNAL

Incorporating  
THE BRITISH CONSTRUCTIONAL ENGINEER  
and  
THE CONTRACTOR  
Established 1879

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Editor:

LAWRENCE MCCARTHY

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### Advertisements

Advertisement rates may be obtained on application to R. Binfield, Advertisement Manager.

## CONSTRUCTION HOURS AND WAGES

WITH the recent settlement of the building operatives' wage claim this winter's industrial sparring in the construction industries has ended in more red faces than bloody noses. On the face of it industrial peace is assured for the next few months but the new agreements raise a number of problems which both the builders and civil engineering contractors will have to face in the near future.

Building and civil engineering rates have nearly always followed the same pattern in the past and to say that the builders were surprised when the contractors decided to go it alone is to put it mildly. It is true that the builders' leaders have now stated that at no time had there been closer liaison between the builders and the contractors but there seems little doubt that the contractors intentions, revealed at short notice, took the builders by surprise.

The contractors had, of course, every right to make their own agreement because the liaison committee is not a joint negotiating body and, in any case, there are differing circumstances and conditions in civil engineering contracting. For example, when considering their decision to reduce winter working hours, one has to remember that while many building sites can operate under artificial lighting the same does not apply to civil engineering.

It was inevitable that the contractors' decisions should influence the builders' negotiations as indeed happened. During these negotiations the operatives pointed out that to have different wage rates on building and civil engineering work among men who were interchangeable would not only result in considerable difficulties but could strain and damage the good industrial relations which existed between the building employers and the unions, and in this the employers acquiesced. One might poise the question, however, whether in fact many labourers would have been lost by the builders to the contractors if the builders had not also awarded another 1½d. Many builders' labourers would certainly not tolerate the conditions which have of necessity to be met on many civil engineering contracts. Nevertheless, these two different agreements may yet cause difficulties, for example, on working hours and overtime rates.

It is said in some quarters that the contractors have wrested the initiative in wage negotiations away from the builders. Whether or not one accepts this interpretation of recent events the builders have been put in a position where they will have to make greater efforts to increase productivity. This has been quickly acknowledged by the President of the N.F.B.T.E., who addressing the Council of the L.M.B.A., last week, said that this latest increase in labour costs of something under four per cent. must be absorbed by increased productivity. If we as a nation were unable to offset the increased earnings by increased productivity, then we had nothing else to look forward to other than progressive inflation. It was the duty of every builder in the country to examine constantly his organisation and his methods of working so that as an industry they could keep inflation at bay. And he told them not to accept this wage settlement in any way other than as a challenge, a challenge to keep their costs steady.

When announcing the civil engineering settlement the Chairman of the Federation of Civil Engineering Contractors made a similar point saying that the increase in wage costs resulting from the settlement could, over a period of time, be largely absorbed by further increases in productivity. He also said that their offer had been made possible by increased productivity resulting from high mechanisation and new techniques, which the civil engineering unions had always encouraged.

On matters of mechanisation, if not new techniques, many builders, we feel, have something to learn from the contractors. But in addition to raising productivity both sides will in the next few months have to make up their minds whether they intend to go it alone on wages and hours or to act jointly. The trade unions last year at their April conference came out clearly in favour of a single agreement and uniformity of conditions. Certainly one construction industry would be welcomed by many but admittedly there are difficulties. Nevertheless, things can hardly be left as they are.



The Berners Street frontage of the new Sanderson's building

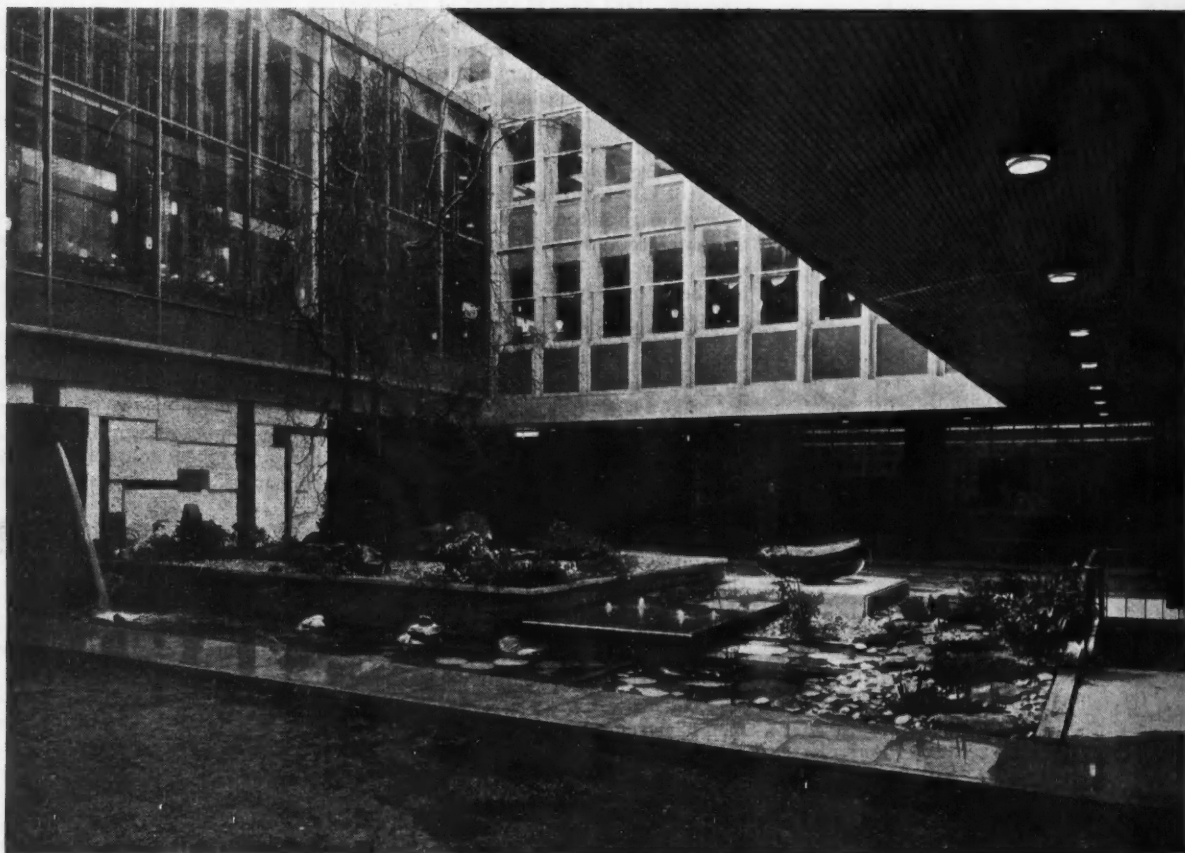
*Promoters:*  
Arthur Sanderson and Sons, Ltd.

*Architects:*  
Slater and Uren

*Structural Engineer:*  
W. A. Mitchell

*Quantity Surveyors:*  
Selby and Sanders

*Contractors:*  
Holloway Bros. (London), Ltd.



The ground floor courtyard, measuring 86ft. by 90ft. The two-storey link block is on the left

## SANDERSON'S LONDON SHOWROOMS AND OFFICES BUILT AROUND GARDEN COURT

OF prime importance in the design of new headquarters and showrooms for a wallpaper and fabric manufacturer must be the provision of a high degree of natural lighting—not an easy problem when the building is sited in a congested part of Central London.

On the new £1m. block for Arthur Sanderson and Sons, Ltd., at Berners Street, London, W.1, where work has been in progress for the past three years, the difficulty has been solved by planning the building around a central garden courtyard. This courtyard is more than just a feature of the scheme, it is the whole basis of the design.

The building consists of a main block for the full length of the Berners Street frontage and of the maximum height permitted by the town planning authority, and a tower block rising above to a height of 100ft. at right angles, determined in position by lighting angles from the north, south and west. From these two main elements and a northern wing lower than the main block evolved the basis of a court plan which, when completed by a linking circulation block, produced a courtyard which became the core of the design.

Taking up much of the ground-floor area, the courtyard has a width of 86ft. by a depth of 90ft. from Berners Street. Vehicular access from Berners Street passes under the main block and into the courtyard proper, with a lay-by area for setting down passengers at the main entrance, and a roadway around the perimeter completes the circuit out to the street. Cars going to the basement park turn off left to the ramp down; those leaving the park rejoin the out circuit from the ramp up on the right. The court receives an abundance of daylight and its central part within the circulating roadway has been designed as an architectural garden with beech trees, mosaics, fountain and large rock slabs.

### Curtain Walling

The building is essentially a curtain wall structure—an envelope with free-standing columns. Consideration of interior daylighting led to the adoption of a standard 45ft. wide building block which, with cross lighting from glazed perimeters, provides adequate intensity over the whole width of floors.

It was important for detail planning reasons that the showrooms should be restricted by no more structural columns than could reasonably be devised, and to comply with these conditions the architects adopted a structural system, comprising a reinforced concrete frame with a plan module of 27ft. square. This provided for each 45ft. wide block to be constructed on two rows of columns 27ft. apart, the remaining 9ft. wide margin on the outer

perimeter being cantilevered from the main structural core.

The unit of 27ft. was reduced to sub-dimensions of 9ft. and 4ft. 6in., which became the modular system for all detailing.

Services could not be allowed to restrict



The two-storey exhibition area, seen from the ground floor main staircase

the planning fluidity of the building, particularly in the showroom sections. A solution to this problem was found in locating all vertical runs on the perimeter enclosure of the building with horizontal distribution at each floor and ceiling level.

The basis of the design of the glass and metal enclosure of the building above ground floor is a series of hollow aluminium shafts or mullions which contain air-conditioning ducts, heating and hot water pipes, sprinkler pipes, and so on. These services originate at the respective plant rooms in the sub-basement, rising in shafts to a distribution level under first floor, from where they split into vertical mullions spaced out on the 4ft. 6in. module continuously around the building.

Aluminium, selected for its lightness and freedom from corrosion, has been used in conjunction with glass for the cladding of the building above ground floor. The glazing between mullions is in anodised aluminium frames, sliding vertically for cleaning and for ventilation. The panels below sill level at each floor are of fired glass, light grey at upper levels where they are absorbed into the general pattern of void and turquoise blue at the first floor.

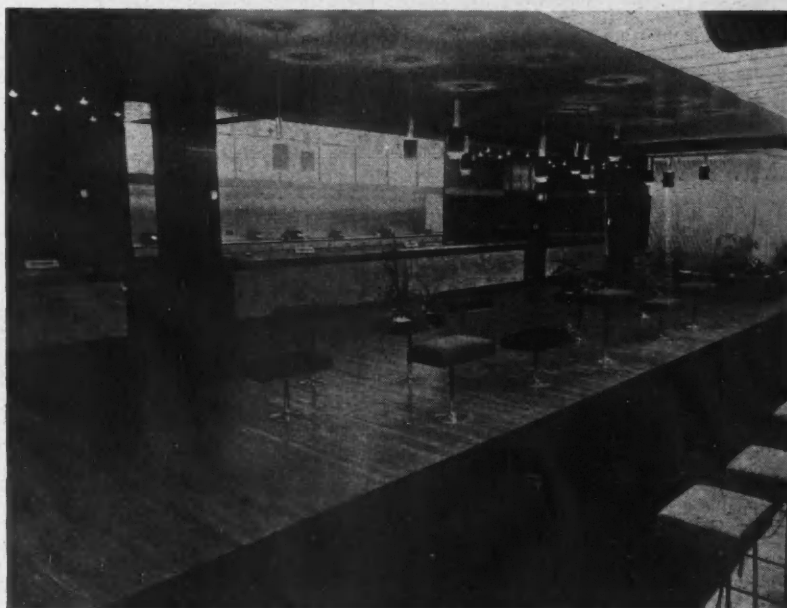
Those parts where a high intensity of daylighting is not required are enclosed by the more orthodox solid wall system, the facings of which are of brick, Portland stone and blue glazed faience.

As the Berners Street façade of the building is the same height as other buildings in the street, it is designed to be effective in the oblique view. The glass plane is set a few inches behind the face of the vertical mullions, far enough to obscure all horizontals from all but a close-up view. The main entrance is accentuated by a canopy carried back into the building and the panels between mullions over the canopy are set back some inches behind the remainder, the deeper mullions providing an accent in the pattern of verticals drawn across the façade.

### Basement Floors

Stock room and heating and ventilating plant are housed in a sub-basement floor. The stock room occupies the northern half of this floor and carries stock to supply the wholesale and retail showrooms and the trade counter. There are two goods lifts and a vertical conveyor for made-up parcels to both trade counter at ground floor and retail counter at first floor.

The heating and ventilating plant is in the southern half of the sub-basement floor and contains three large oil-fired



The marble-faced retail counter on the first floor



boilers and ancillary plant, providing heating water to convectors and radiators throughout and also heat to the air-conditioning plant adjacent.

The air-conditioning plant deals with the showrooms and public parts of the building only. Air is drawn in from an external intake, and after passing through electro-static dust filters is warmed and distributed by ducts to the various sections of the building. The introduction of special dust filtration is to ensure a supply of clean air to the showrooms so that fabrics and wall-papers on display will not lose their freshness of colour.

The basement floor is given over almost entirely to the parking of 70 cars. Co-ordination between the garage and the remainder of the building is by a ventilated lobby, giving access to the central lifts which serve all floors.

Ventilation of the garage is by an extract system, by which petrol and oil fumes are discharged at the top of the tower block, 120ft. above floor level.

Two electrical transformer rooms, telephone equipment and electrical switch rooms are also located at basement level.

#### Ground Floor

By virtue of the structural system of the building, whereby main columns are set in 9ft. from all building faces, it has been possible to set in the actual line of building at ground level along Berners Street to provide a pavement much wider than the normal public footpath. The main entrance is situated directly axial with the tower block, taking up the southern side of the courtyard.

The columns on each side of the entrance, finished in polished black Kellymount marble, are two of the line of eight which carry the superstructure over. Externally the paving is of Roman stone and an armour plate-glass lobby is planned to prevent drafts, aided by a curtain of warm conditioned air.

The lift enclosure wall to the right of

the lobby is treated with random marble mosaic. Paving of the entrance hall is Derbydene marble, and facing to the wall enclosing the main lifts is of Piastraccia marble. The remaining walls have panelling in grey Oriental Ash veneer. A wide staircase constructed of hardwood leads to the main showroom at first-floor level.

A feature of the entrance area is a stained glass mural, 32ft. wide by 21ft. high, designed by John Piper and executed by Patrick Reyntiens. It is believed to be



The nine-storey tower at the south end of the courtyard

the largest example of secular stained glass in this country.

#### Main Showrooms

The main showrooms for wallpapers and fabrics occupy almost the whole of both floors and have a combined floor area of 27,000 sq. ft. Although for all functional purposes the showrooms are on two floors they are treated architecturally as combined in one high compartment. This is noticeable on the external perimeter where the second floor is kept back some distance within the enclosing glass. This two-storey

height quality is more fully exploited in the high display area which is associated with the main entrance and staircase. Here the second floor runs around the exhibition area as a balcony in effect.

The link element which is the west side of the court at this level and the connection between the north and south showroom areas is also treated architecturally as one high storey embodying at second floor a bridge suspended on stainless steel hangers.

Access between the wallpaper and the fabrics levels is by three open staircases. Customer circulation from the reception point at the top of the main staircase and exit from lifts is around the court leading from the display sections through the self-service area to the retail counter at the north end.

The showroom floor is of American oak, while the woodwork, of architectural joinery, consists of Aforimosa hardwood stained and polished dark grey, with panels of Japanese Sen, stained and polished pearl grey. The main structural columns, where showing one storey, are cased with polished black Kellymount marble, while the longer and more slender columns and lift shaft enclosures are of white Piastraccia marble. Painted surfaces have been limited to a range of colour between white and dark grey.

An ancillary wallpaper showroom of 5,800 sq. ft. is provided on the third floor, together with showroom manager's office, sales office, etc. The fourth and fifth floors are devoted to offices, and the sixth floor contains a kitchen and staff dining room. Studios and design rooms are located at seventh- and eighth-floor levels in the tower block.

In addition to the four principal staircases, vertical circulation is by seven passenger and two goods lifts.

The many island display fittings supported between floor and suspended ceiling in the showroom areas called for an immense number of light fittings and lighting points. These, together with the regular grid of sprinkler heads, are provided behind a demountable tile ceiling, drilled for fixing points into rigid sockets above.

#### Consultants and Contractors

The architects for the Sanderson building are Slater and Uren, with W. A. Mitchell, M.I.S.E., acting as structural engineer. Selby and Sanders are the quantity surveyors.

Beverly Pick is the interior design adviser, and Philip Hicks the landscape and horticultural adviser.

The general contract, covering excavation, shoring, piling and foundations, superstructure, plumbing and special fittings for the showrooms, was negotiated with Holloway Bros. (London), Ltd. The contract, for a term of three years, was signed on May 1, 1957.

## INSTITUTE OF SEWAGE PURIFICATION

### Annual Conference, 1960

THE annual conference of the Institute of Sewage Purification will be held at Scarborough from Tuesday, June 21, to Friday, June 24, 1960.

Mr. M. Arnold Kershaw, F.C.S., F.Inst.P.H.E., will be installed as President in succession to Dr. B. A. Southgate, C.B.E., B.A.

Papers to be presented and discussed at the conference include:

"Fuel Cells and their Potentialities for Power Generation from Sludge Digestion Gas," by Dr. H. H. Chambers, A.R.C.S., D.I.C., A.R.I.C., director of research, Soudes Place Research Institute.

"Sewage Disposal into the Sea: Recent Bacteriological and Epidemiological Studies," by Dr. B. Moore, B.Sc., Public

Health Laboratory Service. "Two Stage Biological Sewage Treatment in Germany," by Dr. Ing. Herbert Rohde, deputy director and chief engineer, Ruhrverband, Essen. "Some Biological Aspects of Sewage Treatment," by Mr. H. A. Hawkes, M.Sc., of the Birmingham, Tame and Rea District Drainage Board.

A Paper on the Development and Experiment on the use of Biochemically Soft Detergents is to be introduced by Dr. A. Key, D.Sc., Ph.D., chief chemical inspector, Ministry of Housing and Local Government.

This Paper will deal with the work which has been carried out to produce detergents which will be broken down at sewage works, thus reducing foaming of rivers.

## LONDON TRAFFIC MANAGEMENT UNIT ESTABLISHED

As part of his plan for tackling the London traffic problem the Minister of Transport, Mr. Ernest Marples, has decided to establish in the Ministry of Transport a new London Traffic Management Unit and has appointed Dr. G. Charlesworth, Ph.D., F.Inst.P., as its head. Dr. Charlesworth, who has specialised in road traffic problems for a number of years, is being seconded to the Ministry from the Road Research Laboratory.

The task of the new unit will be, in consultation with the local authorities concerned and the Metropolitan Police, to work out and arrange for the execution of plans for securing the maximum use of London's streets as traffic arteries by the application of modern traffic engineering techniques.

## A.3 FLYUNDER INCORPORATES EXPERIMENTAL SUB-SURFACE HEATING

**R**ELIEF for one of the worst traffic-congested spots in south-west London has been effected by the construction of the Hook Road Underpass, on the London-Portsmouth Trunk Road, A.3, which was opened recently by Lord Chesham, Joint Parliamentary Secretary to the Ministry of Transport.

Carrying the Kingston By-pass under the Surbiton-Leatherhead Road, A.243 (Hook Road), the underpass is designed to take 6,000 vehicles an hour with ease.

At ground level the Hook Road junction now takes the form of a large elliptical roundabout. Two prestressed concrete road bridges are connected by four slip roads to the trunk road, which runs under the roundabout through a cutting between 25ft. high retaining walls. A steel pedestrian bridge goes over the by-pass east of the junction.

The total cost of the scheme, including an extension of the dual carriageway system from the underpass to the junction between the by-pass and Woodstock Lane, a distance of about 800yd., is £400,000. This figure includes about £80,000 involved in the diversion of services and £10,000 in respect of a scheme for the heating of the trunk road carriageways through the underpass.

On the London side of the junction the existing dual 30ft. carriageways narrow to 24ft. through the underpass and 22ft. slip roads, one on each side, connect with the Hook Road roundabout.

The greater part of the work of diverting the mains was carried out during a period of six months in advance of the main contract, which was let to William Old, Ltd., North Harrow, and was commenced in September, 1958.

The dimensions of the site and the existence of important frontage properties imposed severe restrictions not only on the layout of the scheme but also on the actual work of construction, which was further complicated by the necessity to keep flowing the very heavy volume of traffic on the by-pass and the Hook Road throughout the period of construction.

Walls forming the sides of the underpass were constructed in deep trenches

while the trunk road traffic was maintained on the existing carriageway in the centre. As soon as these walls were completed and the four slip road carriageways constructed, traffic was diverted from the centre to the slip roads on each side of the underpass thus enabling the bridge

At the top of the concrete retaining walls, the heavy precast coping blocks are keyed together and to the wall to provide the maximum safety to traffic on the slip roads. The blocks are surmounted with vertical square-bar steel railings.

Prestressed concrete beams were used



The roundabout above the A.3

works and the excavation between the underpass walls to be carried out.

The clay sub-soil on which the structure is founded contains sulphates in sufficient quantities to be harmful to ordinary concrete, and as a precaution special sulphate-resisting cement was used in the walls and bridge foundations.

in the construction of the bridge decks, and special areas of the decks outside that required for traffic now carry mains and cables. The footbridge is of welded-steel construction.

Lighting in the underpass is automatically switched on by a device incorporated in the design.

(Concluded on next page)



View of the approach to the Hook Road Flyunder



*In Parliament*

## MINISTRY OF WORKS CONTRACTS: M.P.s DISCUSS TENDERING PROCEDURE

**T**HE Ministry of Works's system of inviting tenders for Departmental contracts was the subject of a number of questions in the Commons last week.

Mr. Spriggs inquired if the Minister would undertake to adopt free and open competitive tendering for all his Department's contracts, and the widest possible use of the usual channels for the securing of maximum public advertisement.

Replying, the Parliamentary Secretary, Mr. Harmar Nicholls, said that it was his Department's policy to place contracts for construction work after competitive tendering, but the Minister did not consider that advertising for an unlimited number of tenders was a satisfactory system.

The system of inviting tenders from a selected list of approved firms was the one recommended by several independent committees since 1944, and was commended only a few months ago in the Code of Procedure for Selective Tendering, published by the Joint Committee of Architects, Quantity Surveyors and Builders.

Mr. Spriggs: Is the Parliamentary Secretary aware that if he does not give firms an opportunity to show what they can do his Department will never be in a position to know whether these firms are fit to do the work?

Mr. Nicholls: I can assure the hon. Member that any firm can get on to the Ministry's list of approved firms. If he has a firm in mind which he thinks ought to be on the list I shall be delighted to look into the matter.

Mrs. Castle: Will the Parliamentary Secretary remind the Minister that this problem has arisen in connection with the provision of facilities in the Palace of Westminster? Is he aware that the Stokes Committee commented adversely on the fact that certain urgently needed improvements to the library were not carried out because of the high level of Ministry of Works estimates and that the Committee recommended that this work could be put

out for competitive tendering? Could the hon. Gentleman ask the Minister why this has not been done?

Mr. Nicholls: The hon. Lady has added to the point that I was making. One has to be certain that firms which are invited to tender are capable of doing the work. As far as this Royal Palace is concerned one would invite only people who had the facilities, the ability and the knowledge necessary to get the work done. As I have said in reply to the main Question, it is possible for any firm which has the facilities and which can show that it can do the work to be put on the Ministry's list to be invited to tender.

Mr. Spriggs then asked how many firms or companies received invitations to tender for Departmental contracts; and why the Ministry refused tenders, or did not allow interested firms to tender, in view of the specialised knowledge of some of these firms.

The Parliamentary Secretary replied that four to eight contractors were normally invited to tender for works contracts according to the size of the job, selected from the Department's list of approved firms. These arrangements were satisfactory to the industry generally, he said.

Mr. Spriggs: Is not the Minister's policy perhaps in danger of creating a monopoly or a price ring of some kind?

Mr. Nicholls: I think that if there were any difficulty about any firm getting on the approved list there would be that danger to both the public and the building industry. Tendering is best covered by firms being asked to tender for work which it is known they are capable of doing.

### Missile Warning Station

After announcing that agreement had been reached between Britain and the United States for the establishment of a £43m. missile warning system at Fylingdales Moor in Yorkshire, the Secretary of State for Air, Mr. George Ward, replying

to questions said that about 2,000 people would be employed on constructing the project. But he could give no indication when the station was likely to be ready. The United States would provide and install the radars, and the United Kingdom would provide the land, erect the buildings and provide communications required to link the station with our own authorities. The capital cost to this country was expected to be about £8m.

### Severn Bridge

The Rev. Ll. Williams was told by the Parliamentary Secretary to the Ministry of Transport, Mr. John Hay, that while it was not yet possible to say when work would commence on the new Severn Bridge, it was hoped to make a start on the foundations before very long. Meanwhile, preliminary work, including land acquisition, was continuing and the Minister had published a draft Order dealing with the side roads and accesses affected by the approaches to the Severn Bridge.

### Midlothian By-pass

When Mr. Willis asked what progress had been made in the completion of the preliminary arrangements for commencing the Wallyford, or Musselburgh, by-pass, the Joint Under-Secretary of State for Scotland, Mr. Niall Macpherson, said that the line of road had been included in the Midlothian County Council development plan which had still to be approved.

### New Housing Schemes

Joint Under-Secretary of State, Mr. T. G. D. Galbraith, informed Mr. Stodart that although no exact figure was available it was estimated that some 29,000 acres were used for new housing schemes in Scotland during the period 1950-1959.

### Road Designs

In a written answer, the Secretary of State for Scotland, Mr. John MacLay, told Mr. M. MacPherson that the design of new roads was principally an engineering matter but, where necessary, he could be advised, not only by his engineers but also by his planning and architectural staff. Where important structures were involved, the views of the Royal Fine Art Commission for Scotland were obtained and independent architectural advice might be sought.

*(Concluded from previous page)*

porating the photo-electric cell principle. There are sodium lanterns on reinforced concrete columns. Some of these are built into the retaining walls, and in the deeper parts of the underpass flush wall-lighting fittings have been installed. A duplicate electricity supply system is available in case of a power failure.

As an additional safety measure, a barrier of flexible steel beams has been installed along the whole length of the central reservation through the underpass.

Construction of the underpass has taken just over 17 months. The whole of the design work and the supervision of construction of the works was carried out by the county engineer, Mr. D. S. Samuel, and his staff, in collaboration with the divisional road engineer, Mr. C. E. Hollinghurst.

### Heating Experiment

As an experiment, and in conjunction with the Road Research Laboratory, the carriageways of the underpass are heated by heating cables laid just below the surface. This heating system is thermostatically controlled and operates only when the temperature and humidity are such as to engender the formation of ice on the road surface.

The object of the experiment has been to develop a method of providing heating elements in an asphalt carriageway which can be used on a more extensive basis than hitherto and which will enable the surfacings to be laid, incorporating the

heating elements, at an economical cost and at a speed comparable with that now expected for such work.

Successful experiments in the heating of carriageways have already been carried out in other parts of the country, but the methods so far adopted have not lent themselves to the large output obtained from modern mechanical laying of blacktop surfacings. The method adopted at this underpass has proved that, with a rubber-tyred mechanical spreader for the blacktop material, the speed of laying of the surfacing material need not be unduly restricted.

The heating elements consist of well-insulated wires placed 3in. below the carriageway surface, and can best be likened to the principle adopted in an electric blanket. The energy consumption of the elements is about 80-W per square yard of carriageway—about equal to that absorbed by a normal reading lamp.

The heat is controlled primarily by the temperature of the surface of the carriageway and the surface wetness of the carriageway.

For measuring the surface temperature, thermo-couples, consisting of copper and constantin wire soldered together, are placed in the asphalt 1in. below the surface. The temperature of the surface is measured by the electrical resistance between the two ends of the wires and registered in the recording apparatus and thermostats in the control building.

Surface wetness is measured by brass strips a few inches apart, inserted in the

surface. The electrical resistance between these two brass strips is affected by the amount of moisture on the carriageway surface, and the apparatus in the control building registers this variation of the electrical resistance which, in turn, gives a measure of the surface wetness.

The net effect of this arrangement is that the heat is switched on when the carriageway surface is wet as soon as the temperature falls below 36 degrees F. If the carriageway surface is dry, then the heat is not switched on until freezing point is reached.

A somewhat similar apparatus for the registering of temperature and surface wetness is fixed clear of the carriageways but near the control building, and is so designed as to give advance warning of excessive condensation on the carriageway surface and also acts as a snow-detector, thus causing the heat to be switched on under these special conditions.

In addition, air temperatures are automatically recorded in the small white boxes which can be seen on the central reservation approximately 3in. and 3ft. above the roadway, as a means of indicating whether a frosty period is approaching or ending. This gives a further measure of control of the heating. The heat generated is sufficient to melt snow at the rate of about 1in. depth of snow per hour.

The whole of the electrical arrangement has been designed to operate on the off-peak tariff, and the running costs in a normal year are anticipated to be in the neighbourhood of 2s. 6d. per square yard of carriageway per annum.



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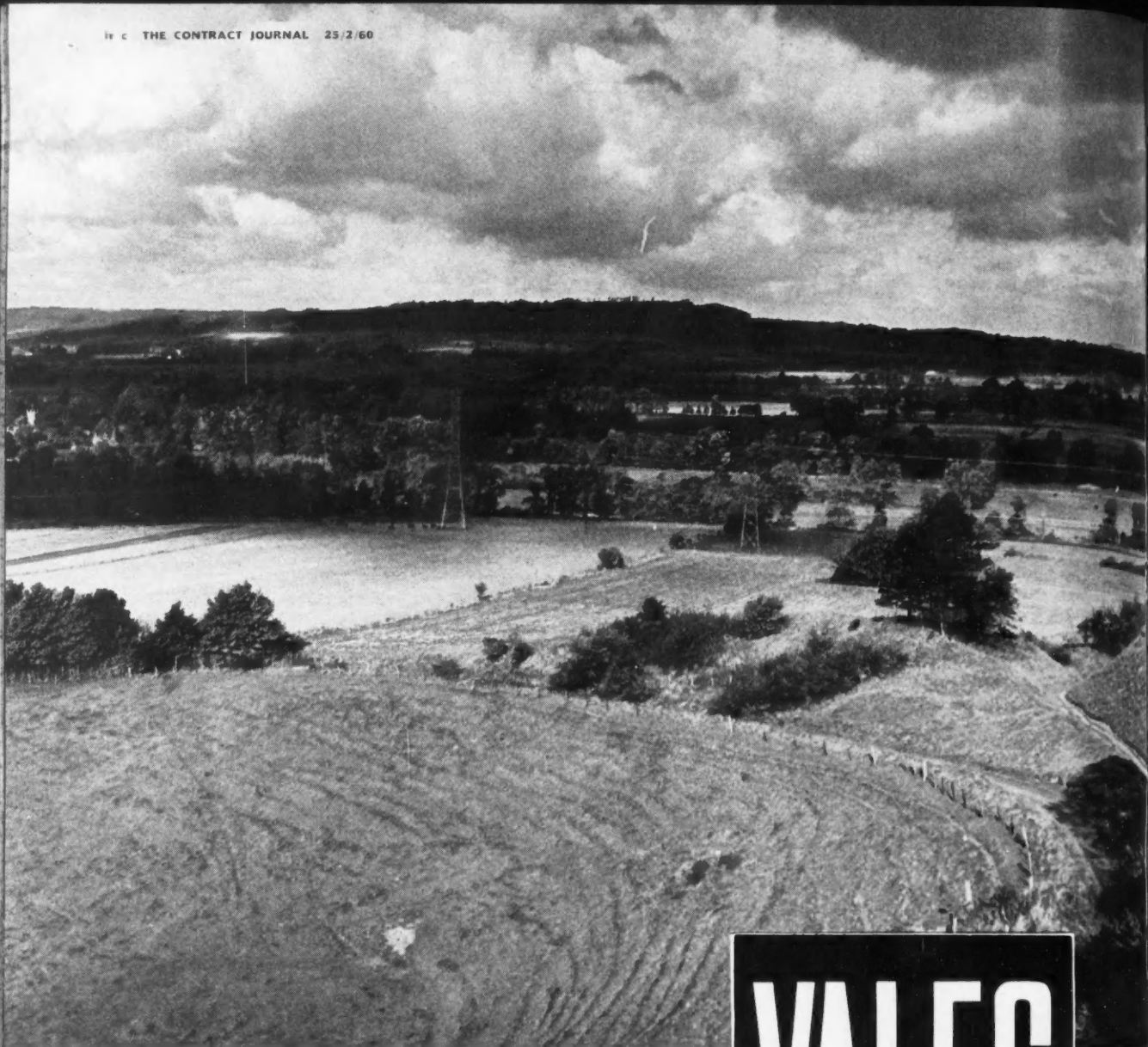
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# John Sumner's Notebook . . .

LAST week's banquet of the Institute of Builders at the Guildhall in London was a proud occasion for the President, Mr. Geoffrey Swayne. In the last three or four years the Institute has increased its prestige and standing in the industry beyond all recognition and the tributes paid to its progress and expansion by various speakers, including Sir David Eccles, Sir Charles Wheeler and Sir Dermot Boyle, were underlined by the record attendance. Over a hundred members and guests had to be accommodated in an adjoining room. They lost little, if anything, of the atmosphere in the Guildhall, however, for a closed circuit television system operated throughout the evening and probably provided them with a better idea of what was going on than most of those in the main party could have gathered.

Great as the occasion was for the President and his officers, however, it must have been an even prouder three hours or more for a Past-President of the Institute who sat in a rather unobtrusive seat across the table from Mr. N. S. Farrow (whose welcome to the guests was a near masterpiece of its kind) and who took no official part in the proceedings. I refer, of course, to Mr. F. Leslie Wallis. It is largely due to his untiring efforts and inspiring leadership that the Institute has shaken off the trauma which enveloped it for so many years and staked its place among the important professional institutions of the day. Mr. Wallis is one of the few men to have been president of both the National Federation of Building Trades Employers and of the Institute. He must be something of a revivalist, for it was during his presidency of the N.F.B.T.E. in 1943 that many of the plans for its post-war development were formulated. It was during his presidency of the Institute that builders began to respond to the call he made to give it a more important rôle to play in the industry's affairs.

A friend tells me that Mr. Wallis has not been too well of late. I can only express the sincere hope that last week's brilliant affair cheered him as much as it impressed all those who attended.

COUNCILLORS who are fond of making claims on the successes, so called, achieved by direct labour departments are finding that there is an increase in the number of people ready to challenge their calculations and ask for them to be substantiated. An example is reported from Sunderland. There Councillor H. Graham, chairman of Sunderland Corporation Public Works Committee, reported to the Council that some contracts had been completed at a figure of 6 per cent. below the price quoted, and that there had been a difference of 6 per cent. between the department's figures and those of the next lowest tenders from private contractors. From this Councillor Graham calculated that there had been a saving to the Corporation of 12 per cent.

These statements have been challenged vigorously and intelligently by Mr. H. W. Wake, director of the Northern Counties building employers, who says: "We would like Councillor Graham to add how many building and civil engineering contracts the public works department tendered for and was not awarded, and what was the aggregate amount by which the department's quotations exceeded those of the successful tenders. He might also say what was the percentage difference between the amount of the lowest tenders and the quotations of the department in these cases." I can see the point of Mr. Wake's questions. They are, however, perhaps more apparent when he points out that his members would like to know what

proportion of the 6 per cent. "saving" is accounted for by the execution of smaller quantities than those quoted for, by the substitution of alternative materials or components, and by other variations between the work tendered for and that executed.

It may be that Councillor Graham has good answers to these questions, but claims of "savings" by direct labour departments and their spokesmen are so often wide of the true state of affairs that I hope the number of challenges, such as those made by Mr. Wake, will go on increasing. After all, in aggregate a great deal of ratepayers' money is involved.

AT long last some official recognition has been given by a Minister of State to the great contribution made to this country's overseas trade activities by the consulting engineers. Mr. F. J. Erroll, Minister of State, Board of Trade, had some nice things to say when he spoke at their Association's annual dinner in London the other day. He could have given no better indication of the value of the rôle they play than quoting the overseas contracts for which the Association's members are responsible. In January last year the figure reached the very large total of £630m., itself an increase of £80m. over the previous year. No wonder Mr. Erroll expressed the view that not many people outside the Association had any idea how big this figure was.

He was including in these figures the cost of such important projects as the Hong Kong water scheme, the hydro-electric developments and irrigation schemes in East Pakistan, the sewerage scheme at Accra, and the £8½m. new international airport at Baghdad. There can be no doubt about the contribution these great constructional works make to our future export trade. Every project designed or built by British engineers not only enhances the prestige of our technical skill but, as Mr. Erroll was at pains to point out, creates a favourable climate for exports of capital and other goods from these islands. Mr. Erroll should know. Before going to the Board of Trade he was Economic Secretary to the Treasury and was at one time vice-chairman of the Conservative Party's Finance, Trade and Industry Committee. With this background he, more than most others, is particularly well qualified to comment upon the contribution the consulting engineers are making to the national economy.

A FEW weeks back I referred to the great impetus Mr. Leonard Walden gave to the safety in building operations campaign some three years ago. The gospel he then preached has been taken up by many well-known disciples, if I may call them that, in different parts of the country, and they show no signs of loosening their grip on the subject. Only this week I have before me a contribution which Mr. Philip Wyatt, the imaginative head of Holland & Hannen and Cubitts (North West), Ltd., has made to his firm's news-sheet, *Cubitts News*, which is appropriately sub-titled "For Better Understanding." Mr. Wyatt concentrates his attention on one factor in safety precautions which, beyond all others, seems to me to be most likely to bring about the best results—tidiness on the site. As he writes: "Proper access to working areas is a fundamental requirement, but only too often men and vehicles are expected to plough their way through mud and filth with a damaging effect on tempers and production. Men wheeling barrows are often expected to take part in some fiendish obstacle race along narrow planks

and insecure bridging. . . . All too often no proper system of routine (of rubbish) disposal is introduced and once again we get the 'battlefield look.' . . . A tidy site is a safe site!"

It is a pity that Mr. Wyatt's remarks cannot be read and digested by all other firms in the industry, employees as well as employers. However, I hope that the comments I have made here will inspire the heads of other firms to take action along the same lines, whether or not they have the advantage of a house journal to help them.

TWO members of the London Master Builders Association who have taken part in recent "Building Matters" broadcasts are Mr. K. J. Pearce, last year's president of the Association, and Mr. H. E. Comben. The former devoted his attention to the practical possibilities and economics of packaged bricks and addressed his questions to a brick manufacturer and to Mr. J. F. Eden, of the Building Research Station, who has been concerned with the development of this method of delivery on the research side. As Mr. Pearce pointed out, at the present time the question as to whether it is better for bricks to be delivered packaged or loose is rather academic, as most builders would be glad to get bricks of any kind. However, this glancing shot apart, Mr. Pearce managed to gather, on behalf of himself and the many interested listeners, a considerable amount of useful information on the subject. In fact at the time I could not help marvelling at the skill with which he put his questions and wheedled the answers from the others. Many professional interviewers could not have done so well. His 64,000-dollar question was, as one might expect, on prices. The brick manufacturer's figure of 15s. per 1,000 for packaged bricks over and above the normal list price seemed to be rather high to Mr. Pearce, and he said he thought it was a bit more than many builders were prepared to pay. Was there any chance of a reduction? The manufacturer pointed out that the figure had already been reduced from £1, and he left me with the impression that if, as was anticipated, orders for packaged bricks expanded, it would make possible improvements in production methods which should lead to lower prices.

Mr. Comben devoted his attention to the electrical equipment of houses on the ring system. His knowledge and experience on technical questions related to building is so vast that he seems always to be able to speak with authority no matter what the subject under discussion may be. In this particular broadcast he left little doubt in my mind that house-builders generally are not by any manner of means so far behind when it comes to questions of modern electrical installations as many of the critics of the industry would suppose.

I am hoping that the B.B.C. will give more time to discussions of this kind for apart from their obvious general interest—even to the lay-listener—they contain much useful information and argument for the industry.

## ANOTHER COST CONTROL CONFERENCE

A further conference on methods of control of building costs at the design stage is to be held at Nottingham University, from March 25 to 27.

The conference which is sponsored by the Cost Research Liaison Committee of the R.I.B.A. and the Royal Institution of Chartered Surveyors, will be on the same lines as those already held at Great Missenden, Bristol, York and Manchester.

Arrangements are being made jointly by the R.I.B.A. and the Nottingham, Derby and Lincoln Society of Architects.

Applicants for the conference, which is residential, should write to W. L. Dunn, F.C.A., Chamberlain and Merchant, Park House, Friar Lane, Nottingham, not later than March 7. The conference fee is £8 8s., inclusive of accommodation.



## GLASGOW PLAN 4½ MILE MOTORWAY

CONSTRUCTION of a 4½-mile motorway encircling the centre of the city was approved in principle last week by Glasgow Corporation. Work is expected to start within five years.

The scheme envisages flyovers at nine major junctions and the width of the road will vary from 94ft. to 120ft. There will be radial roads to carry traffic into the centre of the city.

It was also disclosed last week that the Scottish Office have told the Corporation that they are now ready to consider plans for a permanent approach on the Linthouse side of the new Clyde Tunnel. Construction of this road, which will pass underneath Govan Road and join Moss Road at Galbraith Drive, will add £700,000 to the cost of the twin tunnels.

## MINISTER PRAISES BRITISH CONSULTANTS' WORK OVERSEAS

Speaking at the recent annual dinner of the Association of Consulting Engineers, Mr. F. J. Erroll, Minister of State, Board of Trade, paid a tribute to the very important part played by the British consulting engineers both in the development of the backward countries of the world and as a spearhead for British engineering and other exports.

"The importance of this role is sufficiently shown by the value of the overseas contracts for which your members are responsible," he told the Association. "In January last year this reached the very large total of £630m., itself an increase of £80m. over the previous year.

"Among the many projects included in this great figure perhaps I might mention the Hong Kong water scheme, estimated at £20m.; the East Pakistan irrigation and hydro-electric scheme, valued at £25m.; the Escravos Training Moles in Nigeria, the Accra sewerage scheme, and the new Baghdad International Airport worth £8½m. In addition I understand that one of your members has just started work on a most interesting project of an island oil-tanker terminal in the Persian Gulf in 70ft. depth of water.

"These great constructional works are, of course, a major contribution to the task of raising the standard of living in the under-developed parts of the world," he said. "But they are also of great significance for the future of British export trade and thereby for the economic prosperity of our country. Every project designed or built by British engineers enhances the prestige of our technical skill, and creates a favourable climate for our exports of capital and other goods, as well as earning international goodwill.

"I would like to give one instance of this: Mr. Macmillan recently received a letter of congratulation from the Prime Minister of Turkey on the admirable way in which British firms had completed a great hydro-electric project there."

## BIRMINGHAM-PRESTON MOTORWAY TENDERS

As officially announced on pages 966 and 968, tenders are now being invited for three Birmingham-Preston Motorway contracts. Two Lancashire County Council schemes involve the construction of 11.3 miles of motorway from Woolston to Winstanley Park, and 14.8 miles from Winstanley Park to Preston By-pass. Staffordshire County Council's contract is for the Stafford By-pass involving seven miles of motorway and a length of dual carriageway link road.

## BUILDING APPRENTICES RECEIVE PRIZES

AT a ceremony held last week prizes awarded by the National Joint Apprenticeship Board to boys in the London area were presented by the retiring director of the London Master Builders Association, Mr. G. H. A. Hughes, O.B.E., F.R.I.C.S., F.I.Arb. Mr. Hughes expressed his confidence that there was sufficient work in the foreseeable future to keep all of the apprentices very busy for many years to come. He spoke of the changes that had occurred in the industry during his own lifetime, and asked the boys to try to anticipate the changes in methods and materials which might take place during the next half-century.

The ceremony was chaired by Mr. E. Smith, chairman of the L.M.B.A. apprenticeship committee. Other speakers included Mr. E. L. Jones, secretary of the London Region of the N.F.B.T.O., and Mr. E. J. Cook, B.Sc., M.I.C.E., M.I.Struct.E., F.I.O.B., president of the L.M.B.A.

### N.F.B.T.E. Prizes

Prizes were also awarded by the National Federation of Building Trades Employers last week to craft apprentices and articulated students in the London area. The presentation was made by Mr. D. E. Woodbine Parish, F.I.O.B., president of the N.F.B.T.E.

## BIRMINGHAM LAND PURCHASE "DEPLORED"

A resolution, "deploring the action of the Birmingham Corporation in purchasing for the high price of £93,000 seven acres of Metchley Grange Estate, Harborne," has been passed by the Birmingham Branch of the Federation of Master Builders.

The regional secretary, Mr. W. J. Morgan, said recently that at this particular auction there seemed to be no limit to the forcing up of prices by Birmingham Corporation. As this was also happening with other councils, the members felt that a strong protest should be made to the Ministry of Housing.

## R.D.C. START DIRECT LABOUR SCHEME

Loddon (Norfolk) R.D.C. are to start a direct scheme for maintaining their 850 houses.

This decision has been reached after nine years of discussion. The first report on such a scheme was rejected in April, 1951; and in 1956, when organisation and methods experts recommended the setting up of a direct labour department, no premises were available.

Though the scheme was approved, it was challenged by one member of the Council, who estimated that the additional cost of direct labour over the use of contracting builders was something under £500.

## USE OF ROAD TAR London Lectures

The London and Counties Road Tar Association are arranging a series of lectures on recent developments in the use of road tar. They are to be held at various centres during March and April and will be open to all persons interested in road construction and maintenance.

The lectures will begin at 2.30 p.m. and will be held at Reading, March 10; Guildford, March 17; Catford, March 24; Tunbridge Wells, March 31; Finchley, April 7; Harlow, April 13; and Aylesbury, April 28. Further details may be obtained from the Secretary, Mr. H. J. Wiggins, Corn Exchange Building, 52-57 Mark Lane, London, E.C.3.

## Late Construction News

**LEEDS MULTI-STOREY FLATS.**—Leeds City Council have been recommended to place a contract with Reema Construction, Ltd., Leeds and Salisbury, for two blocks of 10-storey flats at Oldfield Lane, Wortley; two blocks at Wykebridge, Killingbeck; and one block at Raynville Road, Bramley. The tender figure is £527,340.

**LEICESTER HOUSING CONTRACTS.**—The £88,311 tender of Rudkin and Co., Ltd., has been recommended to Leicester City Council for acceptance for 78 dwellings at Evington House estate. The Council has also been recommended to place a contract with Sherriff and Co. (1943), Ltd., Barkby Road, Leicester, at £74,091, for 58 dwellings at Stocking Farm estate.

**SOUTHAMPTON SCHOOL.**—Southampton B.C. have been recommended to accept the £181,850 tender of Holdsworth Construction Co., Ltd., for the erection of the Glen Eyre Secondary Boys' School, subject to Ministry approval.

**OXFORD COLLEGE EXTENSIONS.**—A contract has been awarded to Dove Bros., Ltd., Cloudesley Place, London, N.1, for erection of a four-storey building at Worcester College, Oxford, to accommodate 40 undergraduates. Sir Hugh Casson, Neville Conder and Partners, 35 Thurlow Place, London, S.W.7, are the architects. The estimated cost is £100,000.

**CHESTER ROADS AND SEWERS.**—Chester City Council have been recommended to place a contract, at £84,756, with Percy Bilton, Ltd., London, W.5, for construction of roads and sewers and preliminary road-works on Blacon Camp site.

**OXFORD OFFICE BLOCK.**—Selected contractors are being invited to submit tenders by early next month for the erection of a block of offices at St. Michael Street, Oxford, for Alliance Insurance Co., Ltd. Plans are by Harry W. Smith and Son, 29 George Street, Oxford, and the quantity surveyors are H. J. Ridge and Partners, 79 Petty France, London, S.W.1.

## EXTERNAL RENDERED FINISHES

To the Editor of "The Contract Journal."

Sir,—Digest 131 "External Rendered finishes" was recently issued by H.M.S.O. and it now appears from correspondence since received at the Building Research Station that some of the statements in it have led to some misunderstanding of its intention.

In the penultimate paragraph of the Digest it is stated "... there is not yet sufficient long-term experience with aerated cement-sand mortars used as rendering mixes for any recommendations to be made." It appears that this statement has been read as though it were applicable to the use of plasticisers in mortars used as undercoats for internal plastering and as brickwork mortars. This is not so; the reason for the statement relating to rendered mixes, i.e. risk of rain penetration does not apply to the use of plasticised mortars for internal plastering and for brickwork mortars. The latter is dealt with in Digest 126 and there is ample evidence of satisfactory behaviour for both uses.

The reference to masonry cements in the preceding paragraphs of the Digest has also brought comment because of the difficulty of knowing in the absence of a British Standard the composition of the masonry cement. In choosing a mix based on masonry cements for rendering the user should, therefore, obtain the assurance of the manufacturer that the mixes recommended by him are in fact appropriate alternatives to the cement:lime:sand mixes recommended in the table in the Digest.

Yours, etc.,

R. C. BEVAN

Building Research Station,  
Garston, Watford, Herts.



## APPLICATION OF BONUS SCHEMES TO HIGHWAY WORKS

### Wigan Corporation's Nine Months' Experience

**F**OLLOWING the agreement of the National Joint Council for the Building Industry in 1947, which enabled individual builders to apply bonus schemes, Wigan Borough Council commenced discussions in 1949 with the building trades unions on the question of the introduction of a bonus scheme for the construction of new houses. The following year a scheme was introduced and has since been extended to other capital works and to the joiners' shop in the Council's Building Works Department. The success of this scheme prompted the introduction of a scheme into the Streets Department which undertakes highway and civil engineering works.

Some details of these bonus schemes were given recently by MR. GILBERT KEIGHLEY, B.Sc., A.M.I.C.E., A.M.I.Mech.E., M.I.Mun.E., A.M.T.P.I., borough engineer and surveyor of Wigan, in a Paper "The Application of Incentive Bonus Schemes to Highway and Public Works" presented at a meeting of the N.W. District of the Institution of Municipal Engineers.

Introducing his Paper, Mr. Keighley said the Council prided themselves on the ability to carry out the major part of the building and other public works by direct labour. They had, however, in adhering to a policy of direct labour appreciated (a) that they were the guardians of public money, (b) the necessity to maintain an efficient organisation so that the Department concerned could compete with private enterprise and (c) that to attract and keep the right type of employee, he must be given an opportunity to earn a weekly wage comparable with that which could be obtained in industry.

#### Streets Department

Dealing with the bonus scheme introduced into the Streets Department he said:

The Streets Department of the Corporation carries out the construction of new roads, the reconstruction and maintenance of sewers, surface water drains and culverts, and all work of a civil engineering character. It is not responsible for the cleansing of highways or the removal or disposal of house refuse.

Some four years ago the Streets Committee of the Council expressed dissatisfaction with the Streets Department on the obvious laxity with which jobs were being carried out and the number of jobs on which overspending was being incurred. A report was presented to the Committee, which, inter alia, brought out the operatives' own dissatisfaction at their basic rate of pay compared with labourers in the building and civil engineering industry, and, in fact, the general wage earnings throughout the country. The labourers in the Department were often called to work alongside labourers in the Building Works Department, where the latter were getting not only 4d. per hour extra as a basic rate, but also enjoying the benefits of a bonus scheme.

The report to the Committee recommended the alternatives of applying the civil engineering industry rates of pay to the Streets Department employees or the introduction of a comprehensive bonus scheme. The former alternative was pursued, but after being given the fullest consideration by the Finance Committee, in consultation with the employers' secretary of the Joint Whitley Council, it was decided that such a course would set up a dangerous precedent.

The suggestion of an incentive bonus scheme was put to the appropriate trade unions, but was turned down by the operatives.

In the summer of 1958 another approach was made to the union and this resulted in the employees, on a majority vote, deciding that they were agreeable to explore the possibilities of introducing a scheme. Negotiations on the principles of a scheme and determination of basic targets extended over a period of six months and it became possible to apply the scheme in April, 1959.

At last month's meeting of the Committee it was reported that over the nine months in which the incentive scheme had been in operation, there had been an approximate saving of £10,000 on work carried out on highways and other public works, and that in the carrying out of this work the operatives, some 125 in number, had been paid £6,152 in bonus.

#### Terms of Agreement

To put over any incentive scheme to operatives, it is essential to stress the aims of the scheme and to put into as plain language as possible how the suggested scheme would operate.

In those aims it was made clear that the Corporation for their part would agree to: (1) full consultation between management and employees on all points; (2) guaranteed basic wages for employees; (3) any additional cost to the Corporation as a result of targets not being reached to be made good out of future bonus earnings, unless such additional cost is due to circumstances outside the control of the employees, and (4) any defective work to be taken out and made good at the expense of the future bonus earnings.

The employees themselves desired a scheme whereby everyone, except watchmen, chainmen and a messenger, should participate in the scheme. A scheme was therefore agreed as follows:

- (a) That 10 per cent. be deducted from the bonus earnings to cover the cost of administration of the scheme;
- (b) that the bonus after deduction of the above 10 per cent. shall be split so that 60 per cent. will be paid to the gangs and 40 per cent. to the pool to be shared among all the employees in the Department;
- (c) that idle time which is caused by circumstances outside the control of the employees shall not be taken into account in calculating bonus;
- (d) that where employees are required by the Borough Engineer to carry out shift work or overtime, bonus earnings be calculated on plain-time rates, and that in all other cases where the men elect to work over-

- (g) that apprentices working under the direction of a flagger should not receive the bonus payable to the gangs but should receive pool bonus;
- (h) that where apprentices work on their own they receive their first bonus payments on reaching 18 years of age, and that payment be made in the same ratio that the apprentice's wage bears to a tradesman's wage, in respect of work on a bonus earning operation;
- (i) that a Joint Consultative Committee be set up consisting of five members of the Streets Committee and nine representatives of the employees; and that the representatives of the Streets Committee be authorised with full power to review targets and to agree targets for additional operations;
- (j) that the target figures be reviewed three months after the commencement of the scheme and thereafter every six months;
- (k) that employees on holiday or sick leave be excluded from the scheme.

#### Fixing of Targets

The major portion of the 125 employees in the Department are in three sections, viz. flaggers, general highway workers and general sewerage workers. The remainder are made up of plant operators, plant maintenance men and storekeepers.

Initial targets for the various classes of operations were therefore discussed with representatives of each of these sections, final agreement being made at the meetings of the Joint Consultative Committee.

In the fixing of these targets, cognisance had to be taken of the output of employees over the past years, but stress was laid on the unit rates in bills of quantities for civil engineering work submitted for contract work by outside contractors.

In order to reduce the amount of paper work and in an endeavour to introduce more of the team spirit, it was agreed that targets, wherever possible, should cover a complete operation by the gang involved, e.g., on a concrete carriageway for a housing scheme the target comprises "two-coat reinforced concrete, with granolithic finish, mixed and placed, including paper, fixing and removal of formwork, and construction and sealing of joints, up to 6in. thick."

A "gang" does not necessarily mean all employees engaged on a particular project, e.g., on a road reconstruction scheme, a sewer gang may be dealing with gully connections, another streets gang with the carriageway work, and a further flagging gang with footpath work.

Up to the present time, some 150 individual targets have been agreed with the employees. The following is a typical example.

Description	Labour required	Cost	Target	Work	Remarks
Lay and joint earthenware pipes (trench n.e. 5ft. deep)	Ganger 15 hrs. 3 Labourers 44 hrs. Dumper Driver 15 hrs.	2/8½ per lin. yd.	6 lin. yd. per hr.		Includes haulage, off-loading and necessary trimming to trench base

time, overtime rates be charged against bonus earnings;

- (e) that plus rates (other than those for working in rubber boots or in contact with hot liquid tar, which have as far as possible been taken into account when fixing targets) be ignored in the calculation of the bonus earnings;
- (f) that target costs be reduced by the amount of the wages of a driver or other employee displaced when hired transport and plant is used;

It will be seen that not only was a production target agreed with the employees but also the normal labour and plant to be employed on the particular operation. It will be appreciated that the cost target is included for ease of compiling the bonus earnings. Any change in the basic rates of pay will obviously affect these monetary targets.

#### Assessment of Gang Bonus

The Highways Superintendent is responsible to the Borough Engineer for the

running of the Streets Department and in this he is assisted by two district foremen. These two foremen are responsible for the measurement of work, which is done fortnightly in the course of a long job, or as necessary for work covering short periods. Measurement sheets are countersigned by gangers or other responsible employees.

Bonus is paid with wages, one week in arrear of the normal pay day covering the bonus period, and is paid in two equal instalments, so that a bonus payment is added to wages each week.

The clerical work involved necessitated the appointment of a further clerk. The cost clerk in the Department, who gave material assistance in the assessment of targets, is now in charge of the clerical side of the scheme.

The following example is typical of an operation carried out by a highway gang and the assessment of the bonus:

#### Job—Scot Lane Reconstruction

Operation	Measure	Man-hours	Target Cost	Labour Cost	Saving
Exc. carr. by machine ...	144 cu. yd.	213	£ 82 0 2	£ 46 0 2	£ 36 0 0
Hand exc. (for kerb raft) ...	4½ cu. yd.	8	2 13 9	1 15 4	18 5
Take up kerbs ...	80 lin. yd.	18½	4 1 8	4 0 8	1 0
Ash carr. ...	125 sq. yd.	10	1 12 7	2 2 9	10 2 Def.
3in. lean-mix concrete ...	310 sq. yd.	27	6 2 9	5 17 3	5 6
8in. R.C. carr. ...	580 sq. yd.	182½	59 16 3	39 11 8	20 4 7
Kerb raft and backing ...	83 lin. yd.	27	11 9 1	5 19 5	5 9 8
Set gullies ...	Two No.	2	1 0 0	8 4	11 8
Lay setts ...	68 lin. yd.	14	7 1 8	2 19 10	4 1 10

TOTAL SAVING ... £67 2 6

Total saving ... £67 2 6  
10% deduction for admin. ... £6 14 3

40% deduction for pool share ... £24 3 4

Gang share ... £36 4 11  
Brought forward ... 2 7

£36 7 6

Total man-hours on job—650½

Bonus rate per hour =  $\frac{£36 7 6}{650\frac{1}{2}} = 1/1\frac{1}{2}d.$

#### Pool Bonus

It is, of course, physically impossible to put all the employees on bonusable operations for the whole of their working hours. Many operations carried out in a Streets Department are such that no target can be fixed, e.g., the cleansing of blocked drains and sewers.

The introduction of a pool bonus has gone some way to assist those who have to be put on to non-bonusable operations or those, like storekeeper, whose work is associated with employees on bonusable work.

The introduction of additional targets and the application of work study to the carrying out of operations have been instrumental in increasing the ratio of hours worked on bonusable operations to total hours worked.

The following figures for a two-week period in December, 1959, illustrate this point:

Number of men in scheme ...	124
Number on bonusable operations ...	100 i.e. 80%
Total hours worked by men ...	10,820
Number of hours on bonusable operations ...	4,880 i.e. 45%
Hours lost through inclement weather ...	845 i.e. 8%
Percentage of bonus to total hours less inclement weather ...	49%
Total hours by men on bonus operations less inclement weather ...	7,550
Percentage of bonus hours to above ...	76%
Hours worked by each section were:—	

	Total Hours	Bonus Hours	%
Flaggers ...	2,176	1,407	67
Roadmen ...	4,618	2,169	47
Sewermen ...	3,008	1,304	43
Yardmen, etc. ...	1,018	—	—

The total saving on bonusable operations during this two-week period

amounted to £590 2s., which enabled a pool bonus of 4½d. per hour to be paid. This rate compares with 1½d. paid in the first bonus period of the scheme, and a maximum of 5½d. per hour. The total saving has also risen from £157 in the first period to a maximum of £716. The increase in the number of bonusable operations has naturally affected these figures.

Over the period of the first nine months the value of work carried out in the Department was £146,643, of which £51,565 was net wages. The amount of bonus paid to the employees in this same period was £6,152, or 11.9 per cent. of net wages.

#### Idle Time

Employees engaged on bonusable work resent time being lost due to non-delivery of materials, breakdown of plant, etc., and a close check has to be kept on this matter. Arguments can easily develop

between management and employees as to how long a machine was broken down or at what time materials arrived on the job.

Much credit is due to the foremen and gangers for finding "alternative work" and for quickly notifying the depot of delays, but a certain amount of "idle time" appears inevitable. Both management and employees are really beginning to appreciate the necessity for improved site organisation and planning for continuity of work.

An analysis made during the first six months of the scheme showed that "hold-up time" amounted to 3.42 per cent. of the bonusable hours, of which 1.42 per cent. was paid as "idle time" and for 2 per cent. of which alternative work was found. The two principal items were "Waiting for Materials" (1.56 per cent.) and "Plant Breakdown" (0.58 per cent.).

#### Effect on Cost of Works

One of the objects of any incentive bonus scheme is to ensure a reasonable reduction in unit labour costs irrespective of bonus paid. On the inception of the scheme in Wigan, the Finance Committee wished to be assured that overall costs would be reduced, particularly in view of the request to increase the establishment by one district foreman and one cost clerk.

After nine months operation of the scheme, it has been pleasing to report to the committees concerned the undoubted financial success. Detailed unit costs were available before the scheme commenced and these were used as a basis for comparison with costs under the bonus scheme. It might be argued that costs should be compared with those submitted under contract, but this would not have given the saving had the Streets Department continued to operate without a bonus scheme.

As an example of financial saving, the flaggers, during the nine months under review, carried out work, which in labour, materials, haulage and on cost has cost £8,915. On previous unit costs this same work would have cost £10,241, showing a saving of £1,326. Examples of reduction in unit costs by the flaggers is as follows:

	Pre-scheme	Under scheme
2½in. concrete flags, straight	17/10	15/10
5in. x 10in. kerb, straight...	12/1	10/4

On the whole of the bonusable work there has been a saving of approximately £10,000, or 14 per cent., added to which

the employees have been paid over £6,000 in bonus.

The introduction of the scheme has had an undoubted effect on the employees' attitude towards their work. There is ample evidence of more teamwork and a real endeavour to cut out any unnecessary labour. There have, of course, been a few cases where work has been sub-standard, but the deductions applied to future bonus earnings have been a most effective deterrent.

Gangers are now only too keen to get the right plant for the job and are coming forward with helpful suggestions for increase of output or lowering of costs by introduction of new methods.

It has been found that the mileage of the lorries, which normally deliver stores and small plant and tools, has considerably increased.

Man operatives are beginning to appreciate the meaning of "work study" but against this some gangers and operatives tend to be rather settled in their ways and look with suspicion on alternative methods introduced or suggested by technical assistants.

Some gangers have not yet fully appreciated the necessity to give ample time for the ordering of materials and from the managerial angle it is essential that the Council, in considering annual tenders, accept more than one supplier for the basic materials.

Finally, the introduction of the scheme has in many ways made the operatives appreciate the work of the technical assistant engaged on the design, etc., of public works, and the operatives on the Joint Consultative Committee have come to know something of the work put in by chairmen and members of highways committees.

#### Conclusion

Much information, of course, has been put out from time to time by the Ministry of Works on the subject of incentive bonus schemes and a number of papers on this subject have been given to the various institutions. It is pleasing to think that all incentive schemes at Wigan have been introduced without the necessity to bring in consultants. The results to date are considered satisfactory to both employer and employee, but the management are conscious of the need for senior staff to spend more time on work study in order to keep down costs and to maintain satisfactory bonus earnings for the employees.

Many discussions have taken place in the Building Works Committee and with the trade unions on the introduction of a scheme for maintenance work, but with no success. A scheme was devised for "external painting to municipal houses" but this was turned down by the operatives.

#### CONFERENCE ON TEAM WORK IN BUILDING

The Eastern Counties Joint Board of Architects, Quantity Surveyors and Builders have announced details of a conference, which has been arranged at the University Arms Hotel, Cambridge, on Friday, April 1, the theme of which will be "Team Work in Building."

The Conference will discuss how best to ensure efficient and economic building through a proper appreciation of the professional and managerial functions and responsibilities of all those concerned in a building operation. There will be four sessions, the first being "The Requirements of the Client" by Mr. C. A. W. Harmer, O.B.E., director of Pye, Ltd., Cambridge, followed by Mr. E. D. Jefferiss Matthews, F.R.I.B.A., on "The Role of the Architect," "The Function of the Quantity Surveyor" will be dealt with by Mr. E. Norman Harris, A.F.C., F.R.I.C.S., and the fourth and final session "The Needs and Responsibilities of the Builder" will be given by Mr. T. V. Prosser, F.I.O.B., immediate past president, National Federation of Building Trades Employers.

**International Construction**

## SHAH TO OPEN BRITISH-BUILT BRIDGE IN IRAN

**T**HE new £850,000 Pahlavi Foundation Bridge, which His Imperial Majesty the Shah will open officially in Southern Iran next week, spans the waters of the River Karun and links the Island of Abadan with the mainland at Khorramshahr, one of the country's major ports.

Designed and constructed by The Cementation Group of Companies for The Royal Estates of Iran, the bridge has an overall length of approximately 2,000ft. Its five river spans total 828ft. in length, and its overall width is 34ft. Construction is of steel and reinforced concrete.

### Concept and Design

When, in July 1957, The Cementation Group was invited to submit proposals for the bridge, the primary consideration was to design and construct at speed. Accordingly, work began immediately, both at Khorramshahr and at the Group's London offices. At Khorramshahr, the site was finally located at a point where the river would be spanned from the Island of Abadan to north-east of the port, linking with its planned future development, and at the same time avoiding congestion in Khorramshahr old town.

On the chosen site, test borings were carried out to determine the nature of the subsoil under the approaches and in the river bed. Samples of the subsoil were flown to the United Kingdom to be tested for their engineering properties.

Soon afterwards, a design team considered all factors involved in the building of the bridge, and began work on their proposals. One basic consideration was the need to permit a free flow of shipping; another was to ensure foundations suitable for the Karun's deep waters; yet another was to provide a bridge both functional and architecturally pleasing.

To meet these and other requirements, it was decided to adopt a basic design of five spans and four piers, with a curved waterway clearance in the centre of approximately 60 metres in width and seven metres minimum height. In addition, the bridge would span both the river and the dual

carriageway boulevards on both banks, and be able to take the heaviest type of traffic.

Construction of the main river spans would be of structural steel, with a concrete deck. The approach spans would be of prestressed reinforced concrete beams and

soft clays down to the firm strata at a depth of some 20 metres.

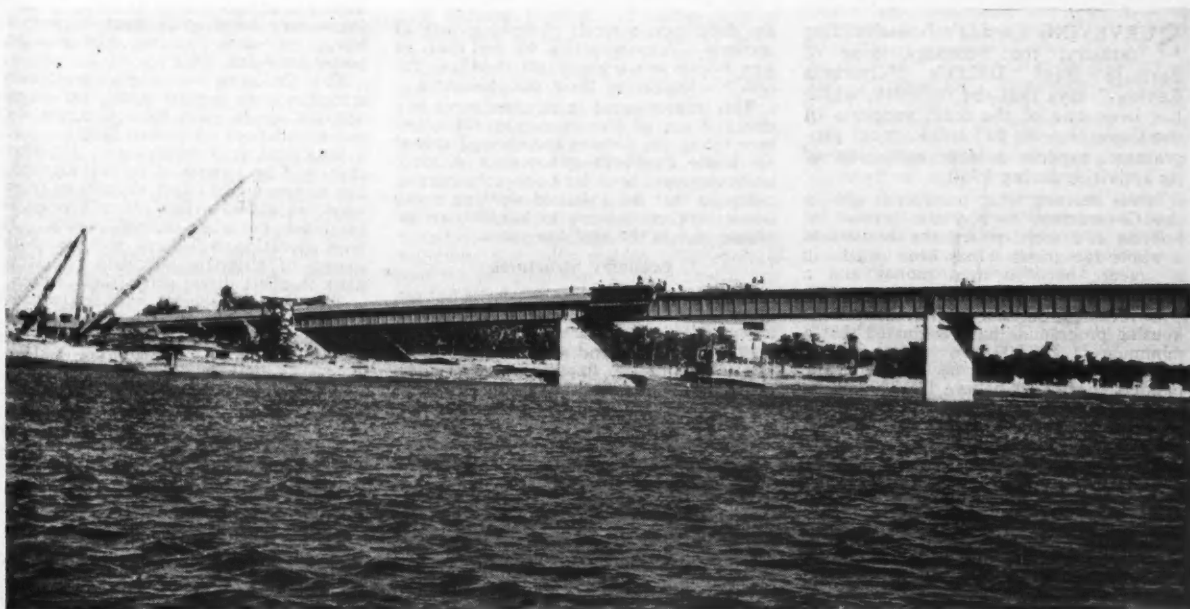
From an aesthetic standpoint, it was important that the bridge should be of elegant design. Accordingly, slender piers were adopted, together with a long con-



Completed piers and main river spans

in-situ reinforced concrete deck acting together monolithically—the first time that this form of construction has been used, it is believed, in the Middle East. Foundations would consist of precast prestressed piles, designed to carry the loads from the bridge and river piers through the silts and

tinuous white facia extending to the full length of the bridge, so as to ensure architectural continuity. It was intended that the whiteness of the facia should predominate in terms of colour, while the dark grey of the steel beams would be deliberately subdued. The abutments, constructed



A view of the Pahlavi Foundation Bridge spanning the River Karun



of precast concrete blocks would provide by their massiveness a break point between the approach spans and the large river spans. In addition, such details as lamp standards and handrails would be given particular attention—so as to ensure a wholly pleasing effect. In this connection, the British architects, Max Lock and Partners, provided assistance.

By October, 1957, the design team had completed their task, and the proposals were submitted to The Royal Estates. These were accepted in principle, and the contract was awarded to The Cementation Co. (Overseas), Ltd., on February 18, 1958.

#### Construction

In March, 1958, a handful of men—British and Iranian—assembled on the Khorramshahr bank of the Karun. They were the advance guard of the construction

team. Their task was to erect an office, stores buildings, and bungalows; to assemble plant, equipment and materials; in short, to prepare the "factory" for the building of the bridge itself.

This preparatory work involved considerable organisation, and occupied several months. Apart from the erection of buildings, special casting beds were laid: made of reinforced concrete, they were used for the manufacture on site of prestressed bearing piles and approach span beams. In addition, access roads were laid, water supplies provided, stores opened, and heavy equipment erected.

While the greatest possible use was made of materials available in Iran, it was also necessary to import from the United Kingdom. Accordingly, steel beams, reinforcing rods and high tensile wire were shipped—together with a considerable proportion of

constructional plant, including mobile cranes and a travelling derrick.

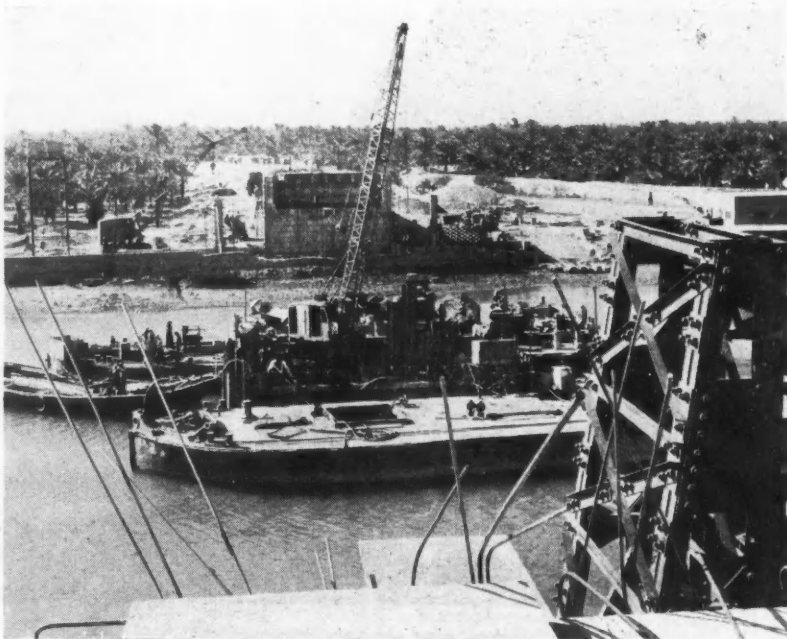
The mobilisation of equipment and materials was completed by the beginning of September, 1958. By this time, too, a construction team had been assembled, which was to rise to more than 240 people (approximately 30 European and 210 Iranian) during peak periods.

To carry out the construction task involved, the work was divided into four distinct yet closely related phases: First, the construction of the Khorramshahr approaches (September, 1958-April, 1959); second, the construction of the river spans (November, 1958-December, 1959); third, the construction of the Abadan approaches (May-October, 1959); and finally, the finishing works (September, 1959-January, 1960).

The method of construction included the jetting and driving of the precast piles from floating craft on the Karun. Colcrete was used for the underwater pile caps, while the piers were constructed with steel shutters, so as to provide the highest quality of finish. The steel beams, manufactured in Britain by Braithwaite, Ltd., were first shipped to Iran in 17-metre sections, then assembled to form completed lengths of some 50 to 60 metres. They were finally rolled, or floated in some cases, to their positions on the river spans.

From this timetable it can be seen that the progress of the work was most carefully planned. Work started on the Khorramshahr approach, for example, so that the steel girders could be erected on it before they were put into final position on the river spans. And in all this, the closest possible teamwork was required of the Iranian and European personnel concerned. For speed was the all-important factor: despite the intense heat of the summer months, operations went on uninterrupted, with men wearing special gloves to avoid blisters from contact with hot steelwork or tools. Moreover, the construction team worked right around the clock, in two 12-hour shifts daily, pausing only for observance of public holidays.

By such means, work progressed rapidly, and the project generally took shape earlier than had been originally anticipated. The actual time taken to construct the bridge, in fact, was 16 months (eight months ahead of the original schedule), which represents a progress rate of 1.55 metres per working day.



Work in progress on the construction of the last pier

## BUILDING INDUSTRY'S PROSPECTS IN CANADA

**S**URVEYING Canada's housebuilding industry, the February issue of Barclays Bank D.C.O.'s "Overseas Review" says that the industry, which has been one of the main supports of the Government's full employment programme, expects a large reduction of its activities during 1960.

While exerting what pressure it can on the Government to continue support of housing as a social policy, the industry as a whole recognises it has been caught in a squeeze between tight money and a strong upsurge in industrial employment.

Government officials connected with the housing programme have estimated that a minimum of 125,000 new houses will be started by builders during 1960, but the builders themselves believe 110,000 will be the top figure. This compares with 140,000 houses started during 1959 and 164,000 during 1958.

#### Not Excessive

This building rate has not been excessive from the social point of view, as it is estimated that 500,000 Canadian families still live in dwellings regarded as sub-standard. Even though the building rate in recent years has been 172 to 195 per cent. of new family formation, a steady upgrading of the standard of housing has maintained

the deficiency, a result of rapid growth of incomes. Approximately 40 per cent. of new houses are replacement dwellings for families improving their circumstances.

This improvement in circumstances is a major cause of the economic difficulties now facing the housing industry. Demand for single dwellings rather than multiple units increases both land and construction costs, so that the so-called working man's house now costs close to \$15,000, an increase of  $\frac{1}{3}$  in the past five years.

#### Economy Structures

In an effort to reduce the cost of houses, Government agencies have been attempting to design economy structures but have had little success, and meantime the problem of mortgage financing has become acute. The rate on conventional institutional mortgage funds has risen to above seven per cent., and the rate on Government-guaranteed mortgages financed by institutions has been raised to 6  $\frac{1}{2}$  per cent.

This year, the Government has indicated it will cut back sharply on its direct loans, providing for 15,000 instead of 35,000 direct loans, in view of its own financing troubles and desire to balance its budget. A reduction in the availability of non-Government mortgage money also is indicated, as a result of the chartered banks being forced out of mortgage lending.

## TAYLOR WOODROW WIN \$5M. CANADIAN CONTRACT

A \$5m. contract has been awarded to Taylor Woodrow (Canada), Ltd., for building a new head office near Toronto for Fords of Canada. It is expected to be completed by April, 1961.

The building, a single seven-storey structure with a total floor area of over 180,000 sq. ft., will have concrete walls and foundations up to first floor level with a structural steel framework. Externally, there will be a series of vertical aluminium fins to give a grid effect, aluminium-framed windows, glazed with a patent process and insulated porcelain-enamel panels. The west elevation will have a "Saw-tooth" design of alternate porcelain panels and glass to offset direct glare from the sun.

The single basement will accommodate executive cars and service rooms; the first floor contain kitchens and dining rooms, assembly room and display area; and from the second to the sixth floors there will be general offices, with the executive suites on the seventh floor.

Air conditioning will be installed and there will be four lifts to service all floors.

The building has been designed by Allward and Gouinlock, architects, Toronto, and the consulting mechanical engineers are R. P. Allsopp Associates, Ltd.

Taylor Woodrow (Nigeria), Ltd., have been awarded a contract to a value exceeding £200,000 by Kaduna Textiles, Ltd., for the design and construction of an extension to the existing textile mill at Kaduna in Northern Nigeria.

# LIVING WITH THE MOTOR VEHICLE

## The Choice Facing Our Cities

IN a Paper presented at a recent meeting in London arranged by the British Road Federation, Mr. Christopher Brunner, vice-chairman of the Federation, said the ownership and use of motor vehicles, and especially cars, had created a world-wide crisis in the life of cities where there was a choice between either allowing worsening congestion to aggravate still further the decline in the centre of the cities, or of accepting the motor vehicle and rebuilding the cities with urban motorways and parking facilities integrated into the scheme.

The ownership of personal transport was already, and would become even more, a major factor in people's lives, and there was really no alternative but to recognise the need for a policy of systematic urban renewal.

The ability and resources for this great and challenging task were certainly available. What was required was the shedding of old passive beliefs and the willingness to seize the chance to transform cities from the depressing, dirty and congested environment that they so often provided, into clean, spacious and efficient places, attractive both to live in and to work in.

### Case for Altering Cities

Putting forward a case for altering cities so that cars could be used in them, Mr. Brunner said in the course of his Paper:

There is an impression in some quarters that it is possible more or less to maintain the present physical environment of our cities, without any major changes, by some system of rationing the number of cars which may enter the centre and so dodging the issue, at least for a decade or two. Such rationing of the entry of cars into city centres could be achieved only by one of two ways: Rationing by the purse or rationing by some system of priorities dependent upon the status of the person occupying the car.

It is not for me to discuss the political difficulties in a democratic community, where everybody will have a car and be at any rate very fully taxed for the privilege of owning it and driving it, of making it too expensive for the ordinary man to drive his car in particular parts of his country, or of deciding who is and who is not important enough to go to work in his car. What I can point out is that the rationing of cars solution is tantamount to encouraging our cities to spread further, because if people cannot drive cars in the cities, they will drive them in places around and outside them.

I do not seek to deny that some restrictions on the use of vehicles in towns are unavoidable. It is not really likely that it will ever be possible to provide parking in cities for every vehicle wishing to come into them at any time during the day. Rationing by the purse, through parking meters or garage fees is possible and, I think, to be preferred to an honours system of qualification. But at present, as *The Times* pointed out in an editorial on December 18 last year on the subject of parking and parking fines, one is left with "the feeling that motorists are becoming very nearly victimised by the Government in the frantic and belated efforts to make up for the omissions and inactivity of the past." The danger is that the temptations of rationing—though that ugly word may be sedulously avoided—may become the cause of further omissions and inactivities.

What I wish to emphasise is the complete futility of any negative approach. A great and challenging task confronts us—no less than the renewal of our cities—and positive, energetic action is needed.

There is no single solution. Each area calls for its own unique approach.

### Planning

Any serious effort to reconstitute urban areas demands something more than local traffic plans or local building regulations. Historically town planning started by modest efforts to improve the urban environment. Gradually this has broadened in scope until now the aim is to improve the whole environment of living and working. There must, however, be plans, as the objectives cannot be pursued piecemeal, and there is small likelihood at this stage of any danger of utopianism on the part of the planner.

At the anniversary exhibition of Liverpool University's Department of Civic Design in May last year, it was concluded that the problem remains of ensuring that all urban building takes place in accordance with a plan prepared in advance and in sufficient detail. "It can be done, and has been done. . . . The great objective now is to transform the exceptional into the customary."

Once it is acknowledged that urban areas in this country are already big enough—if not too big—the need for restriction to prevent cities disintegrating further must be accepted. In large countries, such as the United States or Australia, there may be something to be said for having an urban sprawl rather than a city. The quality of life may, for instance, well be better around the shopping centres, extra-urban factories and offices and new housing neighbourhoods of, say, Cleveland, Ohio, than it is downtown in Cleveland itself. A description of the sprawling urban region stretching 600 miles from Portland in the State of Maine to Norfolk, Virginia, a region of 50 million people in which all distinctions between town, suburbs and country are increasingly blurred, was given by Christopher Tunnard in a broadcast a few years ago. And this is simply the most dramatic example of a number of extending population regions now identified in North America.

But the question which must be asked is whether a densely-populated country such as Britain, with limited land resources, can afford to follow anything like this. Imagine this country with a sprawl from the south coast through London and the Midlands to Lancashire and perhaps beyond. A background of countryside is highly desirable for every community. A splash development of the type which is taking place in some other parts of the world would swallow up the whole of south-eastern England, including the new towns and much of the Midlands and North as well.

While trying to contain the urban areas, provision must be made for the growth of both the population and of economic activity within these areas. And this seems to call for a combination of higher density building, especially towards the centres, and the establishment of more new towns or expanded towns.

I am not equipped with the professional knowledge to discuss either the virtues of such a project as Frank Lloyd Wright's mile-high building, or the merits of, say, Le Corbusier as a town-planner. I can only say that, as an individual, some features of the latter's idea of a "vertical garden city," with its separation of pedestrians from cars, and superimposed dwellings rising above a park containing schools, hospitals and clubs, do appeal to me.

In many countries flat-living appears more acceptable to large numbers of people than it does in Britain, where, given a choice of flat, or house and garden, at the same rent, a very high proportion of people will choose the latter. I should,

even so, hazard a guess that living in flats has become more popular in recent years and that the strength of earlier prejudices against flats has diminished.

There is as well the economic fact that, after some five or six floors, the costs of construction of tall buildings rise very steeply, and this the present housing subsidy policy does nothing to offset. Nearly a year ago the Building Research Station completed an inquiry into the comparative cost to the community of building new towns and of redeveloping slum clearance sites at a density high enough to make the building of new towns unnecessary. Its main finding was that the community would save about £2m. for every 10,000 people re-housed by building new towns rather than multi-storey flats on the cleared sites. Such examples, however, do not make allowance for the social cost of the consequences of increasing the pressure on sprawling.

Nevertheless, during the next 20 years, some 5,000,000 dwellings will have to be constructed, quite apart from other building. If one assumes that 40 per cent., or 2,000,000, will be needed for the conurbation population, a proportion of this number will still probably have to be located in new communities away from the conurbations. The problems of "overspill" are considerable, and that most energetic of authorities in this direction, the London County Council, has in 15 years been able to place only 28,000 families. In the period 1959-1971 it has been estimated that the overspill population in England will be 1,100,000, for which provision has yet to be made for some 700,000.

One example of the slowness with which the slums and outworn areas around the central core of urban areas are being renewed, was given in a broadcast last year by Arthur Ling, city architect of Coventry, who stated that in the period since 1945 only one dwelling had been built in the centre of Coventry for every 140 dwellings built on the outskirts.

At this point I should like briefly to refer to the belief which has gained general currency, namely that urban development is causing the rapid disappearance of agricultural land.

Peter Self in his "Cities in Flood" comments that in fact the built-up areas comprise "only a tiny fraction of Britain's 56,000,000 acres, and the total loss of agricultural land is unlikely to exceed 35,000 acres a year, and some of which will be restored." Colin Clark, the director of the Agricultural Economics Research Institute, Oxford University, has also added the weight of his authority against this misconception, and has referred to a "lot of bogus economics about a supposed shortage of agricultural land. . . ."

One must, in fact, beware of the plea of agricultural conservation as a most respectable reason for opposing schemes basically disliked for other reasons.

Another highly plausible and stultifying argument, by the way, is the preservation of historic buildings. Let us preserve the genuinely historic and aesthetic by all means, but much that masquerades under these descriptions is neither.

### Adapting City to the Vehicle

Of recent years an increasing number of cities in America and also in Europe, such as Brussels, Hamburg and Dusseldorf, have embarked upon the reconstruction of large parts of themselves so as to be able to accept the motor vehicle. To do this, adequate ingress and egress roads must be built, which may become dual-level or multi-level in order to minimise ground area as they converge on the cities. In addition, there must be other roads for those not needing to pass through the



centre. Near the centre provision must be made for cars to be left and stored until they are required again. As ground space in the central areas is too valuable for cars either to be left in the street or to be parked at ground level, multi-storey garage accommodation is essential. It may be expedient for the national and local authorities to subsidise such garages in order to encourage customers to spend their money in the city, or even work there.

But it should be recognised that, in spite of the success in bringing down capital costs of parking garages, in a prosperous area it will always be more profitable to build for uses other than for accommodating cars. Unless decisions about car space are taken with rentability as only one among several factors to consider, cities may attract for a time many buildings but increasingly fewer people. Buildings have a value because people find a use for them. Obstruct the ability to enjoy easy access to them and people will give up using them.

There is bound to be a good deal of room for public transport, as many people, probably most people in the larger cities, will prefer to leave their cars near a train or bus station in the outskirts and continue the journey by public transport. But this will naturally be dependent on the provision of adequate car parking or garage accommodation at railway and bus stations in the commuter zone. In the longer run, of course, the objective is to have more people living in the centre—such as with the Barbican scheme—and to reduce the movement from circumference to centre and back of a predominantly diurnal population.

It is conceivable, furthermore, that not many years will pass before changes begin to occur in working habits. The tendency is for there to be an increasing proportion of capital for each person employed, whether they be factory or office workers, while at the same time there is a movement towards ever shorter working hours. To secure the maximum advantages for a high level of investment, capital assets must be operated intensively. Instead of these resources being used for only a few hours a day, five days a week, as is the case at present, there could perhaps arise a wider adoption of two-shift daily working, with movable "weekends." From the traffic aspect alone, whether of private or public transport, a greater spread of hours would certainly be to the general advantage.

Sometimes it is alleged that urban motorways have not cured traffic congestion in the United States, and the conclusion is drawn that they are therefore not a cure. This is nonsense. If some urban motorways do not cure traffic congestion, the American approach, which is the correct one, is that this may prove only that in a particular city enough may not yet have been built. I do not wish to be misconstrued here as advocating "Los Angeles types" of cities. I am simply recording disagreement with those people who throw up their hands and say that if the present urban motorways have not cured traffic congestion in the United States, this shows there is no point in having them here.

The vital point is, and this has been made often by the Royal Institute of British Architects, that urban motorways are essentially part of the whole problem of urban redevelopment. And this, I submit, does not in the least mean "destroying the soul of" or "tearing the heart out of" our cities, although such hyperboles are fashionable.

Obviously substantial sums of money will be involved. It is not difficult to determine in whose interest such money will primarily be spent. First and foremost, the motorist will benefit and a much greater proportion of the penal taxation he now pays—some £570m. in the current financial year—might reasonably be devoted to making cities fit for motorists. Already we have over 5,000,000 cars in the country. How long will it be before there are 10,000,000? As the number

increases, so does Government revenue, thereby making it easier to contribute towards a renaissance of towns and cities.

Secondly, the cities obviously benefit from not being deserted and dying. This applies to the whole civic community; the city authorities do not want a fall in rateable values; the shops and purveyors of entertainment do not want a continually dwindling turnover; the ordinary man who continues to live within the city limits does not want to be deprived of his opportunity to work in the city. Finally the nation as a whole benefits by avoiding a situation of total urban splash.

#### Present Crisis of Cities

Urban centres have reached a point of crisis. For many years resort has been had to a great variety of palliatives—one way streets, synchronised traffic signals, prohibited parking along one side of some streets, parking meters, and so on. Most of them, in their way, are effective, and in present conditions necessary, but none of them goes to the heart of the matter.

Traffic engineering is only just beginning in this country as a specialist activity. I have no doubt that careful investigations made by traffic engineers will show that there is scope for considerable ingenuity in making urban streets carry much greater volumes of traffic. Anything which they may do to reduce the toll of accidents on urban roads as well will be most welcome. But of itself traffic engineering can do nothing towards the fundamental problem of attracting more people to live in and around the city centres.

The danger will be that some people may come to think of traffic engineering as a "gimmick" which will serve as a substitute for building new urban motorways and for a comprehensive policy of urban renewal. Roads which slice "like knives" through the neighbourhood in which a man lives, naturally make little appeal. The objective must be to make cities and towns physically attractive as well as economically efficient.

A major part of the products of industry are manufactured and consumed in urban areas, and their costs of distribution suffer from the inadequacy of urban roads and the consequent waste or loss caused by congestion.

The business interest, however, is only one of the many interests needed for the combined operation of renewing urban areas. Others include town planners, engineers, architects, government officials and economists, as well as people not professionally connected with the problem.

#### Reconstruction of Urban Centres

In the United States some of the large cities such as Pittsburgh, St. Louis, Boston, Philadelphia and Chicago have been very actively reconstructing their central areas. In seven years Pittsburgh has been very largely remodelled. Boston, with a population in the city itself of 1,000,000 has, in desperation, undertaken a spectacular urban development programme amounting to half a billion dollars (£180m.) of both public and private investment in order to revive the economic life of the city, and halt the business decline which has slowed down development within the city in the past 10 years. In Columbus, Ohio, with a metropolitan population of some 685,000, a total of £100m. has been invested in urban development over the last 15 years.

These American projects owe their success to the combination of citizens who joined together for the purpose of solving what often originally appeared as insoluble problems. They persevered and triumphed. And the mayor of Philadelphia confidently exclaimed, "Every problem we have, we can lick. It takes time, money and patience—that's all."

It is this confident attitude which I should like to have echoed in this country. We cannot go on discussing the problems of urban areas rather in the same way that the perennial difficulties of adolescence may be discussed—"It is all very tiresome but we must simply wait for the day when they will grow out of this stage."

What I envisage as happening increasingly in our cities is something not unlike the American pattern. Wherever large-scale reconstruction of urban areas becomes essential, group studies might, perhaps, be undertaken, first to assemble and analyse all the facts, and then to outline redevelopment plans which could be subsequently prepared in detail. In a word, put major urban planning on a community basis.

In his presidential address to the Royal Institute of British Architects last November, Basil Spence declared, "We are probably entering one of the most exciting periods as far as construction is concerned . . ." as, indeed, it will be, given the opportunity to revive our cities.

Each area presents its own special problems and needs its own special solutions, with scope for infinite variety. Everywhere both public and private building must play their parts. As well as new urban motorways, there are the pedestrians to be catered for with subways or overhead walkways, and every facet of human activity from where to buy food in perhaps special shopping precincts to where to hang the laundry. Controversy over this or that particular project would become the stimulus to even keener endeavour. New inventions, especially of transport, would need investigation in relation to local needs, such as air-trains using the monorail principle, hovercraft, or air-commuter aircraft. New materials and new buildings techniques could be tried out. Each area would re-assert its faith in itself, symbolised perhaps by the line from Shakespeare's "Henry V," "Singing masons building roofs of gold."

People like to see buildings grow, as constructors know by providing observation platforms. Given an impetus, urban renewal will arouse their interest and pride and rapidly gain their support.

What is needed is leadership with conviction and the courage to set the example of urban renewal, in which motorways and parking garages form integral parts, undeterred by setbacks and occasional mistakes.

Thorough surveys of traffic must be very high on the list of preliminary investigations into the nature of the problem of each urban area. At the present time there can be very few towns in Britain which can claim to know just where their traffic has come from or where it is going to, as is commonplace for example in most large German towns. Unless this has been done, one cannot be sure that the layout of streets in most town plans is appropriate. Such surveys are often elaborate exercises but, unless carried out in advance of development plans, very large sums of money may, of course, be spent fruitlessly.

#### 300-YEAR-OLD CITY TOWER TO GO

Parliamentary powers are to be sought by the City of London Corporation for the demolition of the tower of the seventeenth century St. Alban's Church at Wood Street, London, E.C.

This decision by the Court of Common Council follows an undertaking given five years ago by the Corporation to preserve the tower as a building of historic and architectural interest. The situation has now changed, reports the Town Planning Committee, with the necessity of widening Wood Street as the only road giving access from Gresham Street to London Wall.

#### SMALL HOUSE EXHIBITION IN SCOTLAND

The prize-winning designs, together with a selection of working drawings and models in the Small House Competition promoted by the R.I.B.A. and *Ideal Home* magazine are to be exhibited at the Scottish Building Centre, 425-427 Sauchiehall Street, Glasgow, from March 1-12 inclusive.



## BUILDING PRODUCTIVITY: MINISTER ON CHALLENGE FACING THE INDUSTRY

**S**PEAKING at the annual dinner of the Institute of Builders held in the Guildhall, London, last week, Sir David Eccles, Minister of Education, said that negotiations had now almost been concluded for the establishment in London of a college where architecture, quantity surveying, structural engineering and building could be taught under one roof to the higher academic levels. He was unable at this stage to announce details of the site and cost.

The Minister, who was proposing the toast, "The Institute of Builders," referred to the productivity challenge facing the building industry in the next 10 years. Looking back, he said had the Government done more to check inflation in general and had the building industry done more to improve its capacity it would not have been necessary to put the brake on so often or so soon.

"It is a really remarkable fact that your

economy has been expanding at 2½ per cent. compound interest over the decade in front of us?

"Are you capable of meeting, with constant costs, that expansion in the volume of new construction; and I think I put it rather low, because you could make out a good case for saying that the richer the country gets, even faster must we have an increase in building. There is a danger that your industry could be itself the brake on the whole expansion of this country's economy, unless management and training are rapidly and confidently improved.

### Government's Responsibility

"What can we do from our side of the Government? Of course, we have a responsibility, too, and I think there are probably three things which the Government ought to do to help you steadily to expand your capacity.

"The first is, of course, that it is essential for a Government to manage skilfully that very delicate balance between

will, I beg you to do this. Just take what was the volume of new construction in the last year of the fifties, 1959, and project yourselves with care and think what it has got to be in the last year of the sixties, if we are all to realise our hopes. Really, you have a wonderful future in front of you, one which should give you that self-confidence which would mean, I think, that the industry went ahead and expanded its capacity, as we all in the Government want it to do."

### Gratifying Response

Replying to the toast, Mr. G. O. Swayne, O.B.E., president, said that during the past two or three years the Institute had demonstrated anew its consciousness of its great trust and responsibility. Responding to an insistent demand both from within its own ranks and from industrial, educational and journalistic well-wishers, it had instituted wide revivalist reforms, but, significantly, its name, its aims and objects remained unchanged. It was still the Institute of Builders, but its professional corporate membership had been broadened to include, as Fellows or Associates, those engaged in building practice, in teaching building subjects or in building research.

As a natural consequence it had recently published, for thoughtful comment, its revised examination structure and syllabuses, the main intentions of which were to give greater prominence to the importance of modern management techniques, and to encourage a change of emphasis from a somewhat narrow study of the details of construction to a broader appreciation of the technology of building.

It was very pleasing for him to be able to announce that they had had a most gratifying and almost overwhelming response to their invitation for comment on the proposals. In addition to comments from their own members, letters had been received from educationalists throughout the United Kingdom and overseas, from the Building Research Station, from the technical Press and from their own National Federation of Building Trades Employers. He was proud to say that almost without exception their general proposals had been welcomed and applauded, and detailed criticism had been notably constructive.

It was now the task of the Examinations Planning Committee to analyse and summarise these comments and to make final recommendations to the Council of the Institute. To this Committee also fell the somewhat unenviable duty of recommending the extent to which it might be advisable initially to grant exemptions to the holders of recognised external examination diplomas or membership qualifications of kindred institutions.

All their schemes for the improvement and development of building education would not flourish, however, unless and until the architectural profession, local authorities and the general building public—but particularly the architectural profession—were persuaded that it was in the interests of its clients for the Institute of Builders' qualifications to be accorded the recognition they desired as a measure of competence to practise building.

Since its incorporation, the policies of the Institute had been based on what had been described as "the general building contractor" system, a system which he thought emerged in the early Victorian era. Believing this system still to be the most efficient and economic in the interests of the building owner, whether public or private, the Institute's revised examination structure had been based on the continued acceptance of this principle.

The toast of "The Guests" was proposed by Mr. N. Stanley Farrow, M.B.E., the responses being made by Sir Charles Wheeler, President of the Royal Academy, and Sir Dermot Boyle, Chief of Air Staff.



Left to right: Sir Charles Wheeler, Sir David Eccles, Mr. G. O. Swayne, the Bishop of Guildford, Sir Dermot Boyle, Mr. J. Gowing Middleton

manpower has remained stationary, a few thousand one side or the other, at a million and a half," he continued. "The count is taken each June, and it has remained almost stationary year in, year out, for quite a long time now. I am not saying it is wrong, but if the manpower remains stationary then it follows that the volume of new construction which you are able to perform with a stable manpower must increase year by year or it will not be possible to expand the economy as we want to.

### Productivity Must Rise

"Therefore one reaches a very obvious conclusion. If the labour force is to be a million and a half, then it must be the productivity of the industry which must rise equal to the demands of the kind of expansion that you and I know this country is capable of. Every year you must build more, and you must do it without increasing the unit costs, because, if they do increase, then they contribute to inflation; and the Government has to put the brake on inflation. That is our duty, and we cannot ignore it.

"This, therefore, is the question I want to leave in your minds. Have you calculated and have you faced up to what the volume of new construction will have to be in, say, the year 1970, if the British

inflation and deflation so that there is continuity. That is the first thing.

"The second thing a Government can do is to plan its own investment rather further ahead. I hope you will think that has been done in the Ministry of Education, starting with the technical college programme and now with the schools. Such forward planning, getting rid of that awful annual programme which was, I think, a bad thing from the point of view of efficient work, is a good thing to do; and whereas now it is a two-year programme, I hope we shall go to a three-year programme for schools as well as colleges, because it helps you to know what is coming in making your dispositions.

"Thirdly, we can join with you in any way we can to promote better education and training for your industry.

"But I do say this. All that we can do from our side of the Government will be a failure as far as building is concerned unless we can persuade you to share our confidence in the expansionist power of this British economy over the next decade. You must feel that confidence, or I think you yourselves will not make the dispositions which are necessary.

"I think there are good prospects now in front of us, if we can really make a big advance in the next few years on the educational side of building; and, if you

The growth of road traffic in British overseas territories since 1946 is discussed by Overseas Bulletin No. 11, published by the Road Research Laboratory, Harmondsworth, Middx.

## Men and Movements

**CHAIRMAN** of the Chamberlain group of companies, **Mr. Leslie F. Chamberlain** will visit Trinidad to sound the market for manufacturing and marketing standard steel buildings in the Caribbean area. He will be accompanied by one of the group's senior directors, **Mr. M. H. Briggs**, of Sanders and Forster, Ltd., the structural engineering company in the group.



L. F. CHAMBERLAIN

**Mr. E. M. Winterbottom** has been appointed a director of Johnston Brothers (Contractors), Ltd., and of Non-Impact Surfaces, Ltd.; and **Mr. H. G. Smallwood** becomes sales director of Johnston Brothers (Engineering), Ltd.

Equity Credit Co., Ltd., have announced the appointment of **Mr. J. Llewellyn Durrant** as manager of the recently opened south and west Wales office at Saunders-foot, Pembs.

**Mr. Donovan Purcell**, of Norwich, has been appointed surveyor of the fabric of Ely Cathedral and consultant architect to the Dean and Chapter.

The new senior vice-president and president-elect of the Incorporated Association of Architects and Surveyors is **Mr. Peter R. Walker**.

British Insulated Callender's Cables, Ltd., have announced that **Mr. T. C. Johnston**, formerly general manager of Metropolitan Electric Cables and Construction Co., Ltd., will be joining the company as regional manager (eastern region).

A recent appointment in the wood preservative field is that of **Lt.-Col. P. J. T. Skipwith** who has been made sales manager of Celcure, Ltd. He joined the company early in 1958.

Engineers of the Egyptian Sinai Manganes Company have been attending a technical course on the Rotair compressor at the Camborne headquarters of Holman Bros., Ltd. Shown in the photograph are



(left to right) **Mr. F. B. Coombes**, Holman chief designer of compressors and pneumatic tools; **Mr. Fawzi Aziz Helmy**; **Mr. R. C. Holman**, of Holman Bros.; and **Mr. Akmed Murad Kheirallah**.

The Kelvin Gold Medal, awarded triennially as a mark of distinction in engineering work, was presented recently to **Sir Geoffrey Taylor, F.R.S.**, at the Institution of Civil Engineers. Much of Sir Geoffrey's work has been in the fields of meteorology and aerodynamics, and he has made many contributions to hydrodynamics, elasticity, the behaviour of crystals under strain, plastic flow in metals, and the mathematics of viscous and compressible fluids. He has been described as among the greatest of applied mathematicians and mechanicians.

The manager of the Middle East zone of Perkins Engines, Ltd., **Mr. H. O. Hallas**, is making a business tour to meet distributors, customers and Government officials in Turkey, Egypt, the Lebanon, Amman, Cyprus and Greece. He expects to return to this country on April 1. Perkins have also announced that **Mr. B. A. Chengapa** has been appointed assistant liaison executive in India for the company. He will be based in Madras, where he will assist **Mr. David Little**, acting liaison executive and manager of the company's Far East zone. Mr. Chengapa has just returned to India after a year's special training at Peterborough.

**Mr. E. J. Bullock** was recently elected president of the Agricultural Machinery Importers' Association of Rhodesia and Nyasaland.

**Mr. Bullock** was for many years with Ford Motor Co., Ltd., where he initiated the courses in mechanised farming at the Boreham Training Centre and later started the industrial sales department of tractor division. In 1958 he joined Duly and Co., Ltd.



E. J. BULLOCK

Two executives of Koehring Company, Milwaukee, Wisconsin, both of whom have served with the company for many years, have now retired. They are **Mr. F. H. Heine**, vice-president in charge of foreign operations, and **Mr. P. P. Graser**, secretary-treasurer.

**Mr. C. E. Wadley**, of Hutton (Builders), Ltd., has been elected senior vice-president of the Eastern Federation of Building Trades Employers.

New highways engineering appointments made by the Ministry of Transport include the following: **Mr. C. E. Hollinghurst**, M.Eng., A.M.I.C.E., has been appointed a deputy chief engineer (civil) on the highways engineering staff of the Ministry at headquarters. **Mr. J. A. S. Dakers**, B.Sc., A.M.I.C.E., has been appointed to succeed Mr. Hollinghurst as divisional road engineer, Metropolitan division. **Mr. H. S. Keep**, M.C., B.Sc.(Eng.), A.C.G.I., M.I.C.E., is leaving south-eastern division to take up a new post as an assistant chief engineer at headquarters. He is succeeded as divisional road engineer, south-eastern division, by **Mr. T. E. Hutton**, B.Sc.(Hons.), M.I.C.E., A.M.I.Mun.E. **Mr. L. P. F. Hubbard**, B.Sc., A.M.I.C.E., A.M.I.Mun.E., has been appointed divisional road engineer, south-western division, in succession to Mr. Hutton.

The new chairman of the north-eastern area of the London Master Builders Association is **Mr. F. N. Carmody**, a director of Ford and Walton, Ltd. Mr. Carmody is a Fellow of the Institute of Builders.

Winn and Coales, Ltd., have announced the departure of **Mr. Dennis Allen** by air for a sales promotion tour of West Africa. He will visit Ghana, Nigeria and Sierra Leone, and expects to be away for about two months.

**Mr. Sydney Mason**, chairman and joint managing director of The Hammerson Property and Investment Trust, Ltd., which has recently formed a new Australian subsidiary, will be visiting Australia in February and March for the purpose of exploring the possibilities of shop and commercial developments in Melbourne and Sydney.



S. MASON

The U.A.M. Group has appointed an additional representative to the London area. From March 14, **Mr. P. E. Gargrave**, who has been working for the past three months in the sales department at head office at Watford, will take over the London south-west and west postal districts. **Mr. F. M. Gomm** will remain responsible for the London, S.W.1 and W.2 districts, while **Mr. W. Todd** will be responsible for London, N.W., and Middlesex.

Among members of a British trade mission now visiting Cairo are **Mr. H. G. Nelson**, managing director of English Electric Co., Ltd., and vice-chairman of the Advisory Council on Middle East Trade; **Mr. M. Pearce**, overseas manager of George Wimpey and Co., Ltd.; and **Mr. R. Wonfor**, sales director of Vickers-Armstrongs, Ltd. The object of the mission's visit is the renewal of trading contacts, and they will meet government officials of the United Arab Republic.

**Mr. Peter Wrightson, O.B.E.**, managing director of Head Wrightson and Co., Ltd., since 1955, has been appointed vice-chairman and managing director.

### MUNICIPAL

The deputy county surveyor to West Riding C.C., **Mr. G. T. Carpenter**, has retired after 48 years' service with the Council. He has been succeeded by **Mr. L. F. Crossley**, previously assistant county surveyor (south-west area).

**Mr. Alfred B. Groves**, at present chief assistant engineer to the South Staffordshire Waterworks Company, has been appointed county water engineer and manager to Anglesey C.C. He will take up the post in April.

**Mr. J. R. Sheridan-Shedden**, deputy city architect at Birmingham, has been appointed city architect at Leeds in succession to the late **Mr. R. A. H. Livett**.

The deputy water engineer at Reading, **Mr. H. Archer**, has been appointed deputy water engineer to the Thames Valley Water Board. He will hold the new post concurrently with his present one.

It is regretted that owing to a mistake in transmission an erroneous report appeared in these columns last week concerning the "Rigby Portland Cement Co., Ltd." The appointments mentioned concerned Brown, Muff and Co., Ltd., and were in no way connected with The Rugby Portland Cement Co., Ltd.



## TACK COATS: A SUCCESSFUL APPLICATION FOR BITUMEN EMULSIONS

ONE of the most successful applications for bitumen emulsions is as a tack coat under all types of coated stone used on road surfaces. Failures are rare, but in order that consistently successful results may be obtained with tack coat bitumen emulsions, particularly with the ever-increasing speed of laying due to the use of mechanical laying equipment, it is an advantage to understand their properties, and also the techniques found by experience to be best for dealing with the various conditions that arise on the road.

The greater part of these notes applies to anionic emulsions which have been used for so many years, but the new cationic tack coat bitumen emulsions now available in this country counter many of the difficulties, and may well become the type used all the year round.

The object of using a tack coat is to obtain an adhesive film on the road surface so that any coated macadam or asphalt carpet placed thereon bonds well with the old surface. It is clear that until this adhesive film is obtained the tack coat will not fulfill its proper function, and failure may result from movement of the material superimposed. When movement occurs, the tack coat is often blamed, when the real trouble is that the emulsion has not been allowed to "break" properly before laying the carpet, too thick a film has been applied or regard has not been paid to the effect of weather conditions.

### "Breaking"

First, then, a note about the manner in which bitumen emulsions "break" may be useful. By "breaking," is meant change in the emulsion from the condition of finely divided particles of bitumen held dispersed in an emulsifier solution to the form in which these bitumen particles, due to loss of water, finally coalesce to form a coherent film.

With anionic emulsions there are two stages in this process, the first being the production of a "cheesy" condition in which the bitumen has largely separated from the emulsifier solution, but is non-adhesive due to the presence of water. The condition is normally achieved in anything from a few minutes up to half an hour or more for a given emulsion, depending on weather conditions. When this stage has been reached, it is generally satisfactory to start applying the coated stone. This stage, as is well known, is indicated when the film of emulsion turns black.

The second stage is the completion of the change from the "cheesy" condition to the coherent and continuous film of adhesive bitumen, which may well take many hours to reach finality. During this stage, the full strength of the adhesive bond is not present and, consequently, severe stresses set up by heavy traffic may result in movement of the carpet, particularly with thin carpets. Further, water from the emulsion may be trapped between the old road surface and the new layer, especially if the latter is dense textured.

The water can remain for quite long periods, particularly during the cooler months. When this water is trapped it will sometimes result in non-adhesion of the bitumen in the tack coat to one of the two surfaces involved (generally the old surface). Once the emulsion has broken substantially the risk is slight on an open surface, provided the surface itself is not water saturated.

### Some Latitude

It is clear that the specification for the bulk manufacture of emulsions cannot be

*This article has been prepared by the Technical Committee of the Road Emulsion Association.*

varied from minute to minute, but only seasonally, taking into consideration broad trends, such as the lowering of temperature under winter conditions, as compared with the summer. As a result, some latitude must be accepted in regard to the length of time it takes for the emulsion to break. The most important of the local conditions affecting rate of break are the temperature and humidity of the atmosphere; the higher the temperature and the lower the relative humidity, the more quickly will the emulsion break. Other factors affecting the rate of break are wind velocity, chemical and mechanical coagulation.

The emulsion, therefore, is designed to break as quickly as possible under the average seasonal conditions prevailing, taking into consideration the somewhat incompatible fact that a good life in storage must be obtained.

Under average conditions, no difficulty is experienced in achieving the required break and adhesive film, but occasionally—particularly when damp conditions are encountered—dissatisfaction may be expressed with the results obtained. It is necessary, therefore, under bad conditions, to exercise particular care in the grade used and in the application rate. Both with anionic and cationic emulsions it is bad practice to apply them to a water-saturated surface.

Damp, even wet surfaces, providing the emulsion is allowed to break before laying the coated stone, are satisfactory, but, particularly when the base surface is fine cold asphalt, conditions do arise when the surface is water saturated. If the water is sealed in under these conditions eventual expansion of the water can force the carpet off the old road surface so that crazing and pushing of the carpet occurs. If the aggregate used in the carpet is too soft to take the traffic, this movement will produce a mud between the carpet and the old surface.

### Should Be Sprayed

If possible, tack coats should always be sprayed, and as thinly as possible to avoid ponding, but although 10 to 15 square yards per gallon is the usual recommendation, heavier treatment will be necessary on open surfaces. Provided the correct nozzle, etc., is used, there should be no difficulty in obtaining an application rate of 15 square yards per gallon of emulsion if required.

Where conditions are bad, i.e., high humidity, low temperature, still air, then it is much better to use the 55 per cent. bitumen grade, rather than the more usual 30 per cent. bitumen grade, again spraying as thinly as possible, since less water will have to be disposed of before setting is complete. On the other hand, the use of cationic tack coat emulsion will counter many of these difficulties and will be found effective in both summer and winter, except, of course, under freezing conditions, ice and snow.

If application by hand is unavoidable, then the emulsion should be pulled out as much as possible with broom or squeegee, but it is difficult to obtain the rate mentioned above by this method.

Where areas of larger size are being treated, for example when carpets are being laid by machine, it will be found that better results will generally be obtained if the area is sprayed a day or two before the laying commences, blinding the sprayed surface lightly with coated grit at about 500 yd. super./ton, to prevent pick-up or slipperiness. Using this technique, the spreader laying the carpet can work along the road without spoiling the bitumen film in the path of its tracks, and immediate adhesion of the new surfacing to the old will be obtained even where cold or only slightly warm materials are being laid.

If the size of the job permits, that is

over 15,000 square yards, it is best to have the emulsion applied to the road by bulk Spraymachine in order to obtain the benefit of the great improvement in the evenness of the distribution and the exactitude of the rate of spread of the emulsion thereby made possible. In other cases the emulsion should be sprayed by hand sprayer as evenly and thinly as possible, employing the small nozzle cap usually supplied with the machine.

In cases where it is necessary to tack coat immediately in front of laying operations, e.g., patching, most of which is done in the cooler months, often under conditions of high humidity, better results can be obtained by using 55 per cent. bitumen grade, but cationic emulsion specially prepared for tack coating is preferable again spread as thinly as possible.

### Different Kinds of Material

Regarding the different kinds of road material, the approach should be as outlined above, but a few remarks on each kind of material are given below.

Hot-rolled asphalt is often laid direct on a fresh unbroken tack coat, the idea being that the large amount of heat in the asphalt will evaporate the water quickly from the tack coat. While more often than not this method is successful, nevertheless the water is largely sealed into the body of the asphalt as it is a very dense material and, where the layer of asphalt applied is thin, may lead to cracking difficulties afterwards. The more rapid break of cationic emulsion, with the emulsifier acting as a wetting/adhesive agent, is a help in this case.

As mentioned earlier, the same danger of sealing in the water can be observed where cold asphalt is used, and here the risk of failure is very much greater if the tack coat is improperly used, because of the extreme thinness at which the material is often laid and the smaller stresses from above required to move the surfacing where it is not well anchored to the base. It is sometimes noticed, for example, that surface dressing will strip completely on areas of cold asphalt patching. This is probably due to the cold asphalt patch never having adhered properly to the old road, or to the fine cold asphalt being already saturated with water.

A technique sometimes found very convenient for dealing with minor irregularities and cracking of the old road is to apply in place of fine cold asphalt 55 per cent. or 62 per cent. bitumen emulsion and grit with  $\frac{1}{4}$  in. stone of a kind as found convenient. Then, when the area is surfaced, not only can the type of failure noted above be completely avoided, but there is very little risk of bleeding. The latter trouble can arise from the submerging of the chips used for surface dressing into a comparatively soft, cold asphalt patch causing the binder used in the surface dressing operation to well over the top of the chippings.

Where, however, cold asphalt is used for this patching work, provided the techniques given above are observed, the risk of failure should be negligible.

### Less Risk of Sealing

Turning to bitumen macadam, the risk of sealing water into the base is less than with the more dense types of mix because of the more open texture of this material. Nevertheless, the small sizes, say,  $\frac{1}{4}$  in. toppings, give a closely textured surface, and the remarks concerning dense material apply. In addition, the stresses from above required to produce movement are considerably less than with hot-rolled asphalt. Consequently, the same care should be exercised in the use of tack coats as detailed previously.

Cationic emulsions have properties somewhat different from the well-known anionic emulsions that have been on the market for so long. The dispersed binder in these emulsions is attracted by the road surface to which it rapidly adheres, and this property asserts itself even if the road is wet. In fact, the binder can be deposited on the road through a visible

*(Concluded on next page)*



# Talking of Safety

by  
"DRAGEE"

A DULL walk through the streets can often be made interesting, and even instructive, by studying the many varieties of scaffolding on view. The most rewarding pastime is "spotting the faults," and with a little practice it will be found that the critical faculties grow sharper, and that in the course of our walks round our own sites, mistakes become more glaringly obvious.

It is possible, of course, for criticism to degenerate into mere carping; nevertheless, a fault in scaffolding usually involves a breach of the Building Regulations, and it is of paramount importance that the user of the scaffold ensures that the suspected fault is examined as a matter of urgency, even though no imminent danger is apparent.

A few weeks ago I came across a putlog scaffold which had started very badly. The footings were inadequate; the uprights were out of line, and they were inclined in the wrong direction—outwards. Several days later I visited another job where a similar scaffold was being erected for a new building at a large industrial undertaking. The working platform was about 20ft. high, and it was being used by a gang of bricklayers. Several stacks of bricks were standing near the edge of the platform.

As I approached the building with the charge-hand—a newcomer named O'Dwyer—I had a feeling that things were far from well, and a brief survey from ground level soon revealed the reasons. Pat O'Dwyer was a hard-working man, anxious to please, but with a very limited knowledge of the regulations, and with even less patience with what he knew. We each lit a cigarette, and stood looking at the job together.

I gathered that Pat had been sent from another contract to take over from a foreman who had been taken ill. The scaffold was exactly as he found it when he arrived, and the three scaffolders were now working on another part of the site, until they were needed for the next lift. That let O'Dwyer out, of course!

"This might be quite an interesting little exercise," I said. "Obviously, quite a few things must be done to put matters right."

"Dragee," who is a practising safety engineer, would welcome subjects for discussion in this column. All names of persons mentioned in these discussions are entirely fictitious. Questions of law are expressed as the author's personal opinions and are not claimed to be authoritative.—EDITOR.

"I would agree to that!" said Pat obligingly.

"I'm pleased to hear it. Suppose we make a list of the faults which we can see from here."

"That's a good idea. You start," said Pat. I laughed. "All right; let's begin by looking at the uprights. Bases O.K. Spacing satisfactory. Everything well braced. Ladders in good order. That brings us to the ledgers. What's wrong there?"

Pat squinted along the lines of tubes. "I should say they're out of level."

I nodded. "Correct. They should be kept as near as possible to the horizontal. Also those two ledgers have been brought together with a spigot midway between two uprights. That's a weak spot; particularly where you have vertical loading. Now have a look at the putlogs. Several of them aren't driven far enough into the wall, and here's a bad feature. Some of the boards overlap, because there is only a single putlog at the ends. That produces an obstruction, and sooner or later someone will trip over it. Apart from that, the platform is very good, and wide enough as well, with four boards."

"Would that be regulation width?"

"It's more than the regulation width for an ordinary working platform when material is deposited on it. For that purpose, the minimum would be 34in. wide but we make four or five boards our rule for this type of work. Now have a look at the guard rails. See anything wrong with them?"

"If you mean the height above the platform—I've checked that. Three feet, as near as dead," said Pat.

"That's good. Unfortunately a few of them are connected to the outside of the uprights instead of to the inside. Those will have to be changed. I'm glad to see your toe-boards are fitted along the edges of the gangways, but surely you haven't allowed for the height of the stacks? You see, toe-boards have to do two jobs. They must help to prevent persons from falling off the edges of platforms, and—according to regulation 24—they must also stop tools and materials from falling. And that includes bricks."

"And how would a nine-inch board keep a three foot stack from overturning?" Pat demanded.

"It wouldn't. But if there's any possibility of bricks getting knocked off the platform, you must increase the height of the toe-board to the top of the stack. You can do that by filling-in the space between

the present toe-board and the guard rail with corrugated sheets, or even chicken wire, provided it's properly secured."

"And does the regulation still call it a toe-board?" asked Pat.

"Yes, now you come to mention it, I suppose it does."

"I always thought them regulations was crazy," said Pat.

But we soon got the erring scaffolders back and had the mistakes put right.

(Concluded from previous page)

water layer, and when the water subsequently dries off, the road surface will be found to have a veneer of binder of regular thickness deposited on it. It is not recommended that these properties be abused or that work be carried on in torrential rain, although, on occasion, successful results have been achieved under such abnormal conditions.

On large areas, such as aerodromes, tack coating can proceed in uncertain weather conditions so that as soon as the rain has dried off the surface, the carpet can be laid, since the tack coat will not have been lost and will not have to be repeated.

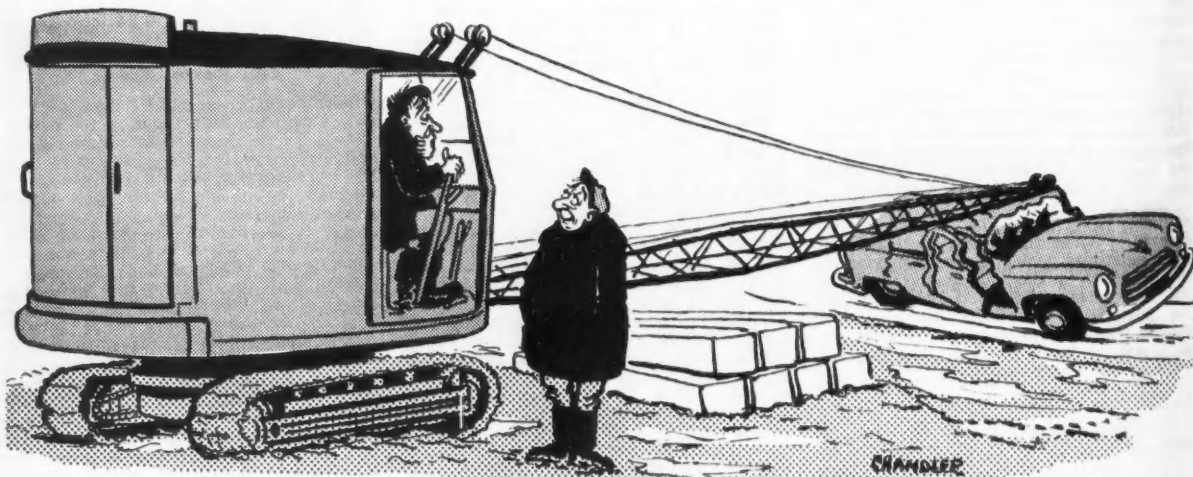
In addition to this advantage, the deposited binder will contain a wetting agent to aid adhesion, and even if circumstances make it necessary for the carpet to be laid on a surface wetted by rain, adhesion will develop with the return of dry, warm weather. Again, this is a procedure that is not recommended except under conditions where it is unavoidable and, under these circumstances, the carpet must be stiff enough not to push or deform under traffic in warm weather as stresses can be developed beyond the strength of the tack coat.

The deposition of binder from cationic emulsions on to surfaces to which they are applied is a rapid process, and this deposit becomes permanent and unaffected by rain in a few minutes.

## Effectiveness Proved

When cationic tack coats were first introduced, they were somewhat experimental, but the more they are used the more effective they prove to be. Those who have considerable experience of their effectiveness have standardised on them for use the whole year around. The slight extra cost is negligible at the rate of coverage used for tack coating.

Summing up, therefore, it has been proved that bitumen emulsion is the only possible tack coat material, but, knowing the necessity for improving the product to meet modern road-making techniques the industry has developed an emulsion specially designed for the job. It was inevitable that this development should be based on the new principle of cationic emulsions as opposed to the old anionic type.



"Shall I take over while you go and tell him what you've done?"

## ESSO PLAN 70-MILE CHEMICAL PIPELINE

**ESSO PETROLEUM COMPANY** have concluded an agreement with Imperial Chemical Industries for the supply of ethylene direct from the Esso refinery at Fawley to the new Severnside works of I.C.I. in South Gloucestershire.

Permission is now being sought from the appropriate authorities to lay a pipeline between Fawley and Severnside which is estimated to cost about £800,000. The pipeline would be the first of its kind in Great Britain to link physically an oil refinery and a large chemical plant, more than 70 miles apart, for the direct supply of intermediate raw materials.

The pipeline would be buried to a minimum depth of 2ft. 6in. and its route would cross several railways, roads, rivers and canals. It would be of welded construction and fully protected against corrosion. It is hoped that construction will commence towards the end of the year, and be completed by the end of 1961.

### Fawley Expansion

To supply ethylene to I.C.I. at Severnside, and to meet increasing demands for other additional feedstocks, the £10m. chemicals plant at the Esso Refinery, Fawley, which was opened by Lord Mills in December, 1958, when he was Minister of Power, will be expanded. This will involve an additional capital investment of £5½m. Construction of this new plant, which will include another steam cracker, is expected to start soon and to be completed by next year.

## ELECTRICITY IN THE HOME

The freedom of planning which electric floor warming gives was one of the points emphasised by the Electrical Development Association in its recent evidence to the Sub-Committee on Housing Standards of the Central Housing Advisory Committee of the Ministry of Housing and Local Government. The Association also called attention to the "meagre electrical facilities" provided in flats and small houses today and suggested that 26 power points (socket outlets) are required for a five-room house.

## BOOTS' £15M. REBUILDING PROGRAMME

Boots the Chemists have announced that they plan to spend between £10m. and £15m. over the next five years in refitting and rebuilding many of their 1,300 shops. Some 65 shops are to be rebuilt in the coming financial year at a cost of £2m.

## HUNTERSTON PRESSURE-VESSEL LIFTS

### Making Up for Lost Time

**FOLLOWING** the full resumption of operations on the Hunterston Nuclear Power Station site, an encouraging start has been made towards achieving a higher production rate on the pressure-vessel construction and other steel fabrication that has been held up for so long.

One of the first achievements was the successful turning over and lifting into the biological shield of the complete bottom head and support course of the 3in. thick steel pressure vessel for reactor A. This has been followed in the last few days by the 70ft. diameter third course.

The lifting of the bottom head and support course as a single unit demonstrated not only the lifting capacity of the Goliath crane, but also the precision of its control. The unit, with its lifting beams, weighed 320 tons, and it has an overall diameter of 66ft. Welded on the outside, on a pitch-circle diameter of 62ft., are 120 slotted gusset plates, and the unit had to be positioned so that these slots would fit smoothly over the outer skirt which was already in position inside the reactor vault. Only 1/32in. clearance was available in each slot.

The bottom head had been welded in an inverted position on the special prefabrication area between the steam-raising-unit fabrication workshop and reactor B. It had then been lifted on to the completed support course, the two welded together, the gusset plates attached, and the slots accurately cut. Most of this had been done when work was suspended last September.

Very shortly after work on this part of the contract had started again, the complete unit was turned over by the Goliath crane. A few days later, when weather conditions were suitable, it was lifted by the crane, carried over the partly finished structure of reactor B, and lowered into place on the outer skirt inside the biological shield of reactor A. This operation was completed in about two hours.

Welding of the gussets to the outer skirt was then begun, and following completion of this the next course, weighing 240 tons, was lifted into position.

The success of these operations, it is stated, is an indication of the efforts being made to make up for some of the time lost last year. Over 500 men are now working again on site for the Motherwell Bridge and Engineering Company, and three shifts a day are being worked.

The main contractor for the Hunterston project, which is being built for the South of Scotland Electricity Board, is The General Electric Co., Ltd. (member of the G.E.C.—Simon-Carves Atomic Energy Group).

## STEEL PRODUCTION REACHES NEW RECORD

**STEEL** production in January reached a new record at an average weekly rate of 471,400 tons compared with the previous highest rate of 458,600 tons in November, 1959, and with 356,900 tons in January, 1959.

After allowing for the normal annual holidays, it is estimated that production in January was at an annual rate of 23.6m. tons or about 17 per cent. above output in 1959. For 1960 as a whole, production is expected to be about 24m. tons or 20 per cent. higher than in 1959.

Of the expected increase in home steel demand during 1960, it is estimated that about half will come from increased consumption and half from a change from a running down to a building up of producers' and consumers' stocks.

Preliminary figures suggest that the general run down in consumers' stocks which started in the second quarter of 1958 ceased during the last quarter of 1959. Stocks at the end of the quarter showed little change in total compared with those at the end of the preceding quarter. Stocks held by the nationalised industries were lower, but stocks in the private sector were rising.

## SAFETY TRAINING IN CIVIL ENGINEERING

The following statement was issued recently by the Federation of Civil Engineering Contractors:

The public attention drawn to the dangers of civil engineering work by the Barton bridge accident and the jury's recommendations for a code of safety regulations is emphasised by the industry's own drive in the promotion of safety through its special training courses.

These were set up last year and have been so successful that a new course, for Merseyside, is being added this year to those already being held at Enfield and Birmingham, while negotiations are in hand to establish further courses in Scotland and South Wales.

The Federation of Civil Engineering Contractors, who sponsors the courses in collaboration with the Ministry of Labour and local safety groups, has directed the syllabus particularly to "key personnel" in safety, that is, to the supervisory grades down to the level of ganger and to young engineers. Subjects dealt with include causes of accidents, site tidiness, excavations and earthworks, staging, electricity, lifting and carrying, and the cost of accidents. Lecturers are drawn from the Factory Inspectorate of the Ministry of Labour, from the industry and from the Electricity Council.

## FOR THE DIARY

### March 2.

Meeting of the North West branch of the Contractors Mechanical Plant Engineers, Kirkby Executive Club, Kirkby Trading Estate, Liverpool, 7.30 p.m. Film and general discussion.

### March 4.

Institution of Highway Engineers. Meeting at the Institution of Structural Engineers, 11 Upper Belgrave Street, London, S.W.1, at 5.30 p.m. "New Methods of Automatic Traffic Control," by E. Bailey and E. Thorpe, Automatic Telephone and Electric Co., Ltd.

### March 5.

Annual dinner of the Institute of Builders' Licentiate Discussion Club at The Overseas League, Park Place, London, S.W.1, at 6 p.m.

### March 7.

Annual dinner and dance of the Federation of Painting Contractors, Dorchester Hotel, London, W.1. 7 p.m.

### March 8.

Annual dinner of the Royal Institution of Chartered Surveyors at Grosvenor House, Park Lane, London, W.1. The principal guest will be Mr. Selwyn Lloyd, Secretary of State for Foreign Affairs.

Annual luncheon of the Federation of Building Block Manufacturers, Piccadilly Hotel, London, W.1. 1 p.m.

### March 9.

Dinner of the London Building and Engineering Accident Prevention Group, Agricultural House, Knightsbridge, London, S.W.1. 8 p.m.

### March 10.

Dinner of the Institution of Municipal Engineers, Hyde Park Hotel, London, S.W. 7.45 p.m.

Annual dinner of the Metropolitan and Southern Branch, Institute of Sewage Purification, at St. Ermin's Hotel, Caxton Street, London, S.W.1, at 6 p.m.

### March 11.

London and Home Counties Branch, Incorporated Association of Architects and Surveyors. Informal supper (men only) at the Horseshoe Hotel, Tottenham Court Road, London, W.C.1, at 7 p.m.

### March 15.

Luncheon of the Asphalt Roads Association, Dorchester Hotel, London, W.1. 1 p.m.

### March 16-17.

Merseyside Building Safety Training Centre, Stopgate Lane, Liverpool, 9. Civil engineering safety training course.

### March 18.

Annual general meeting of the Contractors Mechanical Plant Engineers, Midland Branch, at the Imperial Hotel, Temple Street, Birmingham, at 7.30 p.m.

### March 25.

Annual dinner of the Institution of Structural Engineers, Dorchester Hotel, London, W.1. 7.30 p.m.

### March 30.

Annual general meeting and luncheon of the National Federation of Demolition Contractors, Waldorf Hotel, London, W.C.2.



## Trade Section

## NEW RANGE OF CONCRETE BUILDINGS

A NEW range of all-purpose concrete buildings, the "Compton Universal," has been introduced by Sectional Concrete Buildings, Ltd., Station Works, Fenny Compton, near Leamington Spa, War.

The buildings have standard wall panels 1ft. 4½in. high by 3ft. 9in. long. Reinforced precast concrete posts measure 6in. by 4in. Portal frame stanchions (4ft. by 2ft.) and beams (4½in. by 1½in.) are hoisted in position and bolted to posts at 8ft. centres. Beams are bolted to stanchions with ½in. diameter bolts.

A method of roof support, which does away with obstruction of the floor area by vertical pillars, is one of the features of the new range. This is achieved by the use of end trusses, measuring 2in. by 2in. by ½in., of mild steel angle, bolted to the end posts.

## LEWIN ROAD SWEEPER FILM

Entitled "Keep Your Eye on the Road," a film has been produced for Lewin Road Sweepers, Ltd., West Bromwich, Staffs., a member of the Brockhouse Organisation.

In colour, the film, which includes day and night scenes, illustrates various models of Lewin road and airfield sweepers in action, and devotes several sequences to design, operating and maintenance features.

## LAING LEX, LTD.

John Laing and Son (Holdings), Ltd., and Lex Garages, Ltd., have agreed to form a new company, Laing Lex, Ltd., for the purpose of sponsoring multi-storey and underground car parking facilities in London and the major cities of Britain.

## DROTT DIGS DEEP

AN extension to Reading's sewage disposal plant necessitated an excavation measuring approximately 70ft. x 50ft. and 28ft. in depth. Designed to accommodate a new pump house, the excavation was shored with steel piling on the outside edge and around a central column of earth left as an anchor for stout timber props.

An International Drott with 4-in-1 Skid Shovel and rear mounted Scarifier used an

## COMPRESSION FITTING FOR POLYTHENE TUBES

COMPRESSION JOINTS, LTD., of Birmingham, have introduced to the Plastex Senior compression fittings for 2in. nominal bore Polythene tubes normal gauge to BSS.1972 and 2in. high density Polythene tubes to BPF 42 tables 1 and 2. Manufactured in cast gunmetal the Plastex Senior fitting incorporates a combination giving ease of assembly and enabling the user to tighten up with minimum effort. This is a problem not hitherto overcome using larger diameter Polythene tubes, it is stated. A comprehensive range of patterns is now available and delivery is six to eight weeks.

## ACQUISITION OF STANDARD STEEL COMPANY

Metal Propellers, Ltd., have acquired The Standard Steel Co. (1929), Ltd., who occupy adjoining premises on Purley Way, Croydon.

Mr. C. Colley, managing director of Metal Propellers, has been appointed managing director of Standard Steel. Mr. D. R. Morgan, who will continue as a director of Standard Steel, has been appointed general manager of that company, and a director of Metal Propellers.

## NEW PYRENE FIRE-FIGHTING EQUIPMENT

The Pyrene Co., Ltd., London, S.W.1, have produced a number of new fire-fighting appliances, designed to combat fires involving highly inflammable liquids and substances. This new range of equipment extends from dry chemical fire extinguishers of 5lb. capacity to 25lb. capacity and includes a 150lb. capacity dry chemical wheeled unit and a new foam fire extinguisher.

CODE OF PRACTICE  
Glazing and Fixing of Glass for Buildings

Compiled by experts on glass and glazing, this 44-page British Standard Code of Practice (CP 152:1960) makes recommendations for the glazing and fixing of glass in buildings. It brings thoroughly up to date (and presents in Code of Practice form) the material formerly contained in B.S.973:1945.

Here, concisely expressed and arranged for quick reference, is much essential information for all who use and maintain glass. The Code covers the selection of glass of suitable thickness for varying conditions of exposure and wind pressure. It gives guidance on the properties required to provide adequate durability and sound insulation, and on the fire-retardant properties of glazing.

Glazing techniques are described in detail and recommendations are made for double and multiple glazing, circular and rectangular glass domes, glass facings (including mirrors) and fascias for various types of background or surround. The fixing of leaded and copper lights and special glass is also considered. Advice on maintenance and cleaning is given and notes are included on corrosion at bimetallic contacts.

Purchasers will find particularly useful the list of ten items of information which the Code recommends should be supplied with all orders for glass.

The Code does not deal with the glazing of curtain walling.

Copies may be obtained from the British Standards Institution, Sales Branch, 2 Park Street, London, W.1. Price 12s. 6d. (Postage will be charged extra to non-subscribers.)

## BENCH MOUNTED GRINDER

An air operated grinder for mounting on work benches has been introduced by the Consolidated Pneumatic Tool Co., Ltd., 232 Dawes Road, London, S.W.6.

Known as the 3190M, it has a 6in. diameter wheel which has a width of 1in., the free operating speed being 4,500 r.p.m. Total height of the unit is 9½in. and the weight, including the guard, is 12lb. The diameter of the air inlet connection is ½in., this being a male B.S.P. thread.

Power for the tool is developed by a vane type motor, with a constant speed governor which maintains the wheel at the most efficient cutting speed from no load to full load and eliminates the possibility of over-speed when running free. A heavy valve spring and loose fitting valve prevent the valve from being jammed by foreign matter and a neoprene "O" ring gives a leakproof valve seal.

## NEW EARTHMOVER TYRE

A new tyre in the earthmover range has been introduced to the British market by Firestone Tyre and Rubber Co., Ltd., Brentford, Middx.

Known as the Super Ground Grip Road Builder, it has a new curved bar tread design which is said to give better traction and smooth operation at all speeds. Tension-dried nylon cord is incorporated in the tyre body and tread plies to combat the excessive local flexing which occurs in low-pressure tyres used on rough uneven haul roads.

## £300,000 CRANE ORDER

Wharton Crane and Hoist Co., Ltd., Reddish, Stockport, have secured an order worth over £300,000 for overhead electric travelling cranes to be supplied to Richard Thomas and Baldwin's new steel rolling mill at Llanwern, near Newport.

The cranes are of various types, with capacities in the 10-ton to 75-ton range. Deliveries will commence in September this year, continuing until April, 1961.





## Trade Section

## CATERPILLAR ANNOUNCE NEW D6 TRACTOR

### 25 per cent. Greater Lugging Ability Claimed

A NEW "work-styled" D6 Series B tractor incorporating major improvements resulting in greater machine and operation efficiency is now available, according to an announcement by Caterpillar Tractor Co. of Peoria, Illinois, U.S.A. The machine is manufactured in U.S. but is available from dealers in the U.K.

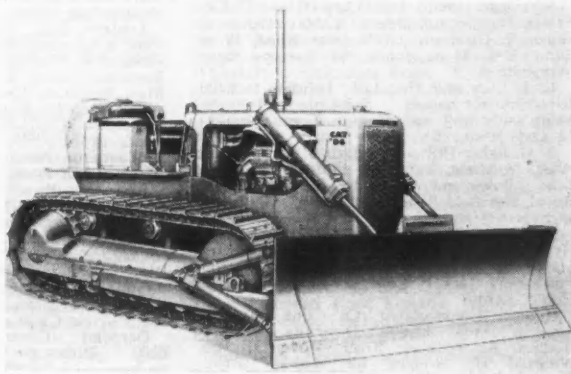
Among the new features are a compact engine that gives the tractor 25 per cent. greater lugging ability; two hydraulic control units that are now integrally mounted; a tilt cylinder for special applications; an optional transmission for jobs calling for higher drawbar pounds pull and an operator's compartment that is more efficient and comfortable.

Resulting from the latest metallurgical advances, the new engine delivers 93 fly-wheel horsepower at 1,600 r.p.m.

The hydraulic control pump and tank are located at the rear of the engine, under the engine hood. This arrangement clears the radiator face and permits greater air flow, which in turn increases the radiator cooling ability. The two new hydraulic controls deliver constant hydraulic power because the pump is driven off the timing gear train. Also, both units have full-flow hydraulic fluid filtration. A check valve in the pressure line holds the dozer blade

in position when the control valve is moved from "hold" position to "raise."

Hydraulic control cylinders are centre-mounted, allowing almost twice the bulldozer blade drop below ground level. The standard radiator guard has been strengthened through re-designing and now permits installation of hydraulic or cable bulldozer blades without requiring a special, heavy duty guard.



The new D6 Series B tractor

An all-new petrol starting engine with off-track recoil starter developing 15-h.p. is standard. In-seat starting for the petrol engine is optional utilising a 12-volt electric system. Also available as optional equipment is a 24-volt direct electric starting system for the diesel engine. Batteries for both the 12-volt and the 24-volt in-seat starting systems are located beneath the operator's arm rest.

Both the diesel and the petrol starting engine are equipped with new, dry type air cleaners, the one on the diesel engine consisting of two filter elements. The main element is easily removable and quickly cleaned with air pressure. A second, safety element provides additional protection to the engine in the event the main filter element receives undetected damage. A top-mounted pre-cleaner removes the majority of all filterable foreign particles with the primary element taking out the remainder. The air cleaner has a minimum efficiency of 99.8 per cent. under all conditions.

#### Safe Working on Steep Slopes

Balance and stability of the machine, and its ability to be worked with heavy, front-mounted equipment is improved through use of the new engine. Oscillation is increased through an equaliser spring arrangement that "shifts" the centre of gravity uphill when operating on sideslopes. This increases the versatility of the machine by making it capable of safely working on steep slopes.

#### Lifetime Lubrication

A large diameter idler is standard on the D6, with a small idler available as an attachment. Six track rollers are mounted on each frame. All track rollers and the idler as well as the carrier rollers are lifetime lubricated. A hydraulic track adjuster is available as an attachment.

Power is transmitted from the engine to the transmission and final drive gears through the Caterpillar oil clutch.

Bevel gear and pinion of the new tractor are improved and have increased capacity because of a coarser pitch. Speeds of the optional transmission match tractor speed and drawbar pounds pull to those most desirable for towed implements in special applications. The optional forward speeds are: 1.9 m.p.h. in first gear; 2.8 m.p.h. in second gear; 3.4 m.p.h. in third gear; 4.3 m.p.h. in fourth gear, and 6.0 m.p.h. in fifth gear. Reverse speeds are: 2.4 m.p.h. in first gear; 3.4 m.p.h. in second gear; 4.1 m.p.h. in third gear and 5.2 m.p.h. in fourth gear.

## SPECIAL TRANSPORTER FOR NUCLEAR POWER STATION SITE

A TRANSPORTER with an overall length of 41ft. 6in., yet with a turning circle of little more than this distance, has been developed by Simmons Engineering, Botley Road, West End, Southampton, specially to handle steel reinforcement and concrete beams on the Trawsfynydd Nuclear Power Station site.

The vehicle, the Simmons Transporter Mark II/L, averages 16 m.p.h. on roadwork and is equipped with Servo-assisted hydraulic braking front and rear. It is powered by a Fordson Power Major industrial unit. A differential lock is available in the transfer box on the main prop shaft.

Two steering wheels on the control platform operate the hydraulic steering; front

and back wheels can thus be steered independently, and the rear wheels locked for normal, lorry-like road movement.

There are four forward gears when driving the vehicle as a lorry on the road, and for site work the gears run through a reversing box. This has a 2½:1 and 1½:1 reduction, giving eight forwards and two reverses, the driver being seated in the opposite direction with the power unit behind him.

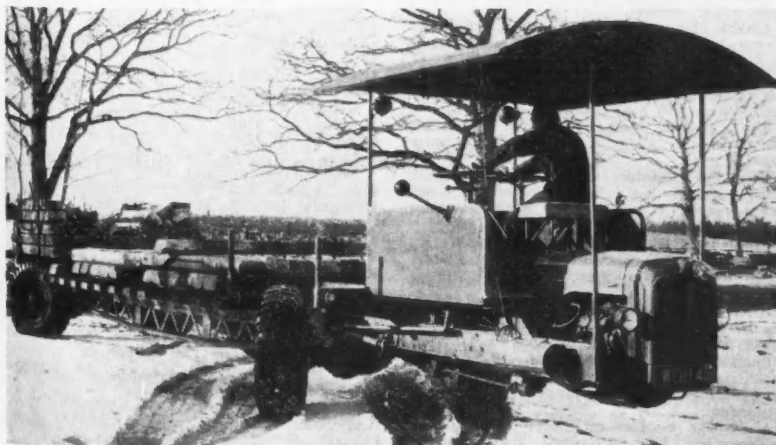
A useful feature is the "crabbing" movement obtainable which, by sideways action, can place the transporter quickly against loading ramps and awkwardly situated collecting and off-loading points.

#### METER WILL WEIGH CONVEYOR MATERIALS

A meter which will fit to horizontal or inclined conveyors, having either flat or troughed idlers, and will total the weight of material passed over the conveyor, has been introduced by The Merrick Scale Manufacturing Co., Ltd., Albert Street, Bulwell, Nottingham.

Called the SV Weightometer, it is a mechanical integrator which continuously multiplies two varying quantities which are first, the ever varying load on the conveyor, which often is subject to extreme and very rapid fluctuations and, second, a slightly varying belt speed of the conveyor. The speed of any conveyor, whilst usually considered as constant, in reality varies slightly with the load.

The accuracy of the Weightometer is said to be plus or minus ½ per cent. of true weight passed when the conveyor is operating at full load conditions.



The Simmons Transporter

## Trade Section

## NEW COMPANIES

*The undermentioned particulars of new companies recently registered are taken from the daily register compiled by Jordan and Sons, Ltd., company registration agents, 116 Chancery Lane, London, W.C.2:—*

Thomas Muckle and Sons, Ltd., 1-3 Sandgate, Berwick-on-Tweed, builders. £25,000. Permanent directors: Geo. T. Muckle and Marjorie Muckle, Ecclestone, Rothbury, Northumb.

W. and S. Contractors, Ltd., house and estate builders. £100. Directors: Eric F. White and Mrs. Eileen M. Saunders, 1a Iris Avenue, Bexleyheath, Kent.

A. E. Whitlock (Builders), Ltd. £1,000. Directors: Albert E. Whitlock and Mrs. J. A. C. Whitlock, 119 Archery Grove, Woolston, Southampton.

Bartholomew Concrete Products, Ltd., 9 The Broadway, Woodford Green, Essex. £1,000. Directors: Mrs. Frances A. Bartholomew, 5 Carisbrook Road, E.17.

Condev, Ltd., 579 Beadon Road, W.6, civil engineers. £10,000. Directors: Allan Bickerdye, Locks Barn, Wokingham; Leslie E. M. Notley, 337 Upper Richmond Road, S.W.15.

Didcot Builders (Blakes), Ltd., Lower Broadway, Didcot. £1,000. Directors: Maurice V. Blake, Highfield, Elvendon Road, Goring; Noah W. Blake, Lydalls Road, Didcot.

Grandways Building Co., Ltd. £100. Directors to be appointed by subscribers. Subscribers: Jean Herbert (company director) and Thos. A. Herbert (barrister), 156 Strand, London, W.C.2.

L. Marriott, Ltd., 22 Regent Street, Nottingham, builders. £1,000. Directors: Leo M. V. Marriott and Rebecca Marriott, 8 Bracknell Crescent, Whitmore Estate, Nottingham.

St. Michael's Construction Co., Ltd., 15 St. Michael's Road, Bournemouth. £100. Permanent directors: Harry E. Bryan-Brown, 16 Marlborough Road, Bournemouth; Aubrey Bryan-Brown, 114a Upper Shirley Road, Croydon; Michael Bryan-Brown, 28 Russell Chambers, Bury Place, London, W.C.1.

A. J. Percy (Builders), Ltd. £5,000. Permanent directors: Arthur J. Percy, 15 Woodhatch Road, Redhill; Leo C. E. Held, 122 Norbury Hill, London, S.W.16.

Wootton Construction Co., Ltd., London Road, Bagshot, builders. £5,000. Permanent directors: Ernest H. Whittall, Cranleigh, Guildford Road, Bagshot; George Wootton, Heather-ton, The Green, Bisleigh.

Contractors Plant and Materials Supply Co., Ltd., Grosvenor Gardens, London, S.W.1. £100. Directors: Richard Englert, Brookhurst, New Road, Llanelly; Thomas Bridges, 72 Lidgett Lane, Leeds, 8.

Kimberley Design and Construction Co., Ltd., Kimberley, Nacton, Ipswich, builders. £1,000. Permanent directors: Annie M. Dimond and George H. Dimond, Kimberley, Nacton, Ipswich. Registered by Jordan and Sons, Ltd.

J. L. Catterall and Sons, Ltd., 31a Grosvenor Mansions, 82 Victoria Street, London, S.W.1, builders. £3,000. Directors: Arthur R. Norman, 29 Anglesmede Way, Pinner; Sydney R. Ash, 28 Gondar Gardens, London, N.W.6; Thomas P. Connelly, 48 Salford Road, London, S.W.11.

J. Troup and Co., Ltd., 26 North Street, Brighton, builders. £500. Directors: James Troup and Mrs. Constance M. Troup, 62 Woodbourne Avenue.

Wrexham Homes, Ltd., Elwy House, 15 King Street, Wrexham, builders. £2,000. Directors: James S. Gronnow, 63 Norman Road, Wrexham; Mrs. Mona Jones, 12 Eneurus Road, Wrexham.

E. J. Lacy and Co., Ltd., builders. £100. Directors not named. Subscribers: John W. Scott (solicitor) and George Conrad (clerk), 11 Old Jewry, E.C.2.

T. G. Baker (Miteham), Ltd., 1 Commonsides West, Miteham, builders. £1,000. Directors: John I. Baker and Winifred J. Baker, 54 Heath Royal, Kersfield Road, S.W.15; John F. Baker, address not stated.

S. and J. Cook, Ltd., 25 Blackhorse Hill, Hythe, Kent, builders. £1,000. Directors: Stanley B. Cook, 55 Philip Road, Cheriton, Folkestone; Jack P. Cook, 25 Blackhorse Hill, Hythe, Kent.

Hodges Construction Co., Ltd., 6 New Road, Brighton. £1,000. Directors: Brian W. Hodges, 62 Wilbury Road, Hove, 3; Mrs. Winifred H. Hodges, 62 Wilbury Road, Hove, 3; Oliver M. Bevan, B.Sc., etc., 55 Brackendale, Potters Bar, Middx.

Dorsay Construction Co., Ltd., Weston Green, Hampton Court Way, Thames Ditton, Surrey, builders. £100. Directors: Robert A. Evans and Mrs. Constance Evans, 2 Loughborough Road, Surbiton, Surrey.

A.G. Developments, Ltd., The Thorpe, Hemingford Grey, Hunts., estate developers. £5,000. Directors: Dorothy A. Gibbs, Dr. Alan E. R. Gibbs and John R. Gibbs, all of The Thorpe, Hemingford Grey, Hunts.

Biggerton and Purchase, Ltd., 100 Torcross Avenue, Wyken, Coventry, builders. £5,000. Directors: Fredk. J. Biggerton, 100 Torcross Avenue, Wyken, Coventry; George Purchase, Elm View, Wall Hill Road, Allesley, Coventry.

Wessex Construction and Plant Hire Co., Ltd., Bidbury Warren, Lower Road, Bedhampton, Hants. £4,000. Directors: Austin C. E. Spragge and Mrs. Joan Spragge, Bidbury Warren, Lower Road, Bedhampton, Hants.

## TRADE NEWS IN BRIEF

**Martin, Black and Co. (Wire Ropes), Ltd.**, have reorganised their sales force in the Yorkshire area. This county is now covered from the firm's office at 13 Sandhill, Quay-side, Newcastle upon Tyne, 1, instead of from the office at 640 Woodborough Road, Mapperley, Nottingham.

The South Eastern Division of The Central Electricity Generating Board have confirmed the appointment of **Stephenson Clarke, Ltd.**, 8 Tower Street, London, E.C.3, as their sole agents for the disposal and commercial development of fly ash outputs from Brighton A and B, Croydon B and Littlebrook A and B generating stations.

**Marketing Network Services, Ltd.**, 9 Blenheim Street, W.1, have been appointed sole agents throughout the United Kingdom for the new Furnace refractory glazes manufactured by **Crownamics, Ltd.**, Charlton, London, S.E.7.

A bay specially designed to house a crane has been added to the standard range of buildings made by **Coseley Buildings, Ltd.**, Lanesfield, Wolverhampton, and is described in a new booklet, "Buildings for Cranes."

A new booklet describing their steel piling and pile-driving equipment has been published by **The British Steel Piling Co., Ltd.**, 10 Haymarket, London, S.W.1.

A new company, **Expandite Adhesives, Ltd.**, has been formed with the Expandite Group to manufacture and market a range of adhesives for the building and civil engineering industries. The company will operate from office and factory premises at Birchley Street, St. Helens, Lancs.

A permanent display panel of their products has been installed in the Building Centre, London, W.C.1, by **Nevill Long and Co. (Boards), Ltd.**, North Hyde Wharf, Southall, Middx.

The Alcon 1in./1½in. mark III pump made by **Arthur Lyon and Co. (Engineers), Ltd.**, 6 Carlos Place, London, W.1, is now available with B.S.A. engine.

**Gould Plant Hire, Ltd.**, Eastern Drydocks, Newport, Mon., have been appointed agents in South Wales and Monmouthshire for C. H. Johnson's range of dumpers, pumps, concreting machinery, etc., also for Warry Engineering's hoists and brick-handling equipment.

The telephone number of **United Dominions Trust's** branch office in Coventry is Coventry 20241/2/3.

**Causeway Reinforcement, Ltd.**, Five Ash Works, Dover Road East, Northfleet, Kent, have created a trestle sales division under Mr. S. J. Davies.

From **Thos. W. Ward, Ltd.**, Albion Works, Sheffield, a new brochure "Batching Plant," illustrating the activities of their materials handling division.

A new brochure 544, "Pressure Vessels," has been published by **Hadfields, Ltd.**, East Hecla Works, Sheffield, 9.

**Portaway Earthing Equipment, Ltd.**, 2 North Park Road, Harrogate, have issued a new price-list covering the current range of their earthing system.

A 24-page booklet on diesel engine maintenance has been prepared by **Cummins Engine Company, Inc.**, Columbus, Indiana, U.S.A.

**F. H. Simmonds (Builders), Ltd.**, Church Road, Walsoken, Wisbech. £3,000. Directors: Frederick H. Simmonds and Mrs. Elsie L. Simmonds, Church Road, Walsoken, Wisbech; Ronald R. Williams, 7 Worcester Road, Wisbech.

**P. Flower and Partners, Ltd.**, 1 Electric Parade, Seven Kings, Ilford, builders. £2,000. Directors: Mrs. Cicely H. M. Siegerts, 16 New Wanstead, E.11; Patrick B. Flower, 21a Lancelot Road, Barkingside; Terence F. Flower, 3 Station Bridge, Seven Kings.

**C. J. Howard and Son, Builders and Contractors, Ltd.**, 272a High Street, Chatham, Kent. £10,000. Directors: Ronald L. W. Howard, Cherryacre, Berengrave Lane, Rainham, Kent; Mrs. Shirley M. Howard, Cherryacre, Berengrave Lane, Rainham, Kent; Chas. J. Howard, Queenie M. Howard, Wm. J. Horner and Wm. G. Hardie.

**Tinkler Lindley and Co., Ltd.**, Mill Lane, Lincoln, builders. £2,000. Directors: Lawrence F. Tinkler, Auburn, Lincoln; John F. Walker, 7 Foster Street, Lincoln; Jack Lindley, 197 Doddington Road, Lincoln.

**Loaland, Ltd.**, 140 High Street, Tenterden, Kent, road contractors. £10,000. Directors: Edward C. Trotter (permanent), Broadway, Brencley, Kent; David G. Loader, 20 Manor Rise, Bearsted, Kent; John R. H. Rowland and Trevor W. Kemsley.

**Builders (Gants Hill), Ltd.**, 253a Cranbrook Road, Ilford. £100. Directors: Bob Anderson, 70 Castleton Road, E.17; Jean C. Anderson, 70 Castleton Road, E.17.

**Barkway Bros. (Builders), Ltd.** £100. Directors: Ernest D. Barkway and Gillian M. Barkway, 11 Greenfield Gardens, Orpington; Ronald R. Barkway, 54 Martins Road, Bromley.

**Cracknell Bros., Ltd.**, builders. £100. Directors: Bernard G. Cracknell, 3 Northcote Avenue, E.17; Howard S. Cracknell, 11 Anne Way, Barkingside, Essex; Doreen Cracknell and Patricia Cracknell.

**Dorpend (Contractors), Ltd.**, builders. £100. Directors to be appointed by subscribers. Subscribers: Betty Ashley, 28 Farnley Road, S.E.25; John W. Bowerman, 99 Wellesley Court, Maida Vale, W.9.

**McHarmay Contractors, Ltd.**, 94 Hoodcote Gardens, N.21, builders. £100. Directors: John R. Harvey, 62 Chalkpit Avenue, St. Pauls Cray, Kent; Wm. A. Harvey, 94 Hoodcote Gardens, N.21; Leo G. E. May and Albert V. McKeown.

**R. W. Greenacre (Building), Ltd.**, 68, Julian Street, Grimsby, Lincs. £5,000. Directors: Robt. W. Greenacre, 34 Breerton Avenue, Cleethorpes; Jack Wagstaff, 13 Rymer Place, Cleethorpes.

**Design and Structures, Ltd.**, 65 High Street, Lyndhurst, Hants, designers, consultants, structural engineers. £100. Directors: Mrs. Winifred Crosbie, Inglenook, Twigg's Lane, Marchwood, Southampton; Mrs. Birte L. Hallum, Rosemount, Nursling, Southampton.

**G. R. Scott (Romford), Builders, Ltd.** £1,000. Directors: George R. Scott and Mrs. A. E. Scott, 149 Havering Road, Romford, Essex.

**T. A. Ellement and Son (Builders), Ltd.**, 21 Bridge Street, Pinner, Middx. £1,000. Directors: Cyril G. Ellement, Southwood, 542 Uxbridge Road, Pinner, Middx.; Charles E. Gibson, 6 Roscroft Walk, Pinner, Middx.

**Epee Construction Co., Ltd.**, 81b Corbets Tey Road, Upminster, Essex, builders. £100. Director: E. D. Struckett, 9 Berther Road, Hornchurch, Essex.

**Godfrey and Barker, Ltd.**, 16 Wimpole Street, W.1, builders. £100. Directors: Albert J. Godfrey, 48 Bush Grove, Stanmore, Middx.; Stanley C. Barker, 47 Lamorna Grove, Stanmore, Middx.; Betty M. Godfrey and Maureen Barker.

**Hawkins, Hull and Co., Ltd.**, Kingston St. Michael, Chippenham, builders. £5,000. Directors: Fredk. J. Hull, The Cinders, Ashes Lane, Kingston Langley, Chippenham; Leslie C. Duckett, 8 Town Close, Kingston St. Michael, Chippenham; and Kenneth P. Warren.

**Murphy Precast Concrete, Ltd.**, Rye House, Hoddesdon. £100. Directors: John Murphy, Christina M. Murphy, 46 Court Road, S.E.9; Arthur L. Hill, 43 Sullivan Road, S.W.6.

**North London Plant Hire and Sales Co., Ltd.**, 74 Bath Road, Wolverhampton. £1,000. Directors: John R. Hood and Ann E. Hood, Cairnsmore, Codsall Wood, near Wolverhampton.

**Geo. Lowe (Builders), Ltd.**, 703 Hagley Road West, Birmingham, 32. £1,000. Directors: George Lowe and Florrie Lowe, 703 Hagley Road West, Birmingham, 32.

**George W. Fabian, Ltd.**, 10 West Hill Road, Brighton, 1, builders. £3,000. Directors: Mrs. Irene Fabian, 13 Elizabeth Avenue, Hove, 4; Roy R. Hedgecock, 54 Hornby Road, Brighton, 7.

**Brian Mills (Precast), Ltd.**, Northern Drive, Bestwood, Nottingham, precast concrete pipes. £10,000. Directors: Brian Mills, 22 Vernon Crescent, Linby, Notts.; John E. Clarke, 32 Wollaton Vale, Beeston, Notts.



# Current Constructional Activities

## PROJECTS • CONTRACTS • AWARDS

THIS editorial feature provides readers with a comprehensive news service covering forthcoming private and public construction work. Commencing on this page information is given concerning future projects followed by details of tenders being invited. In the third section will be found news of tenders recommended for acceptance, tenders accepted and contracts awarded. Attention is also drawn to the advertisements covering contracts and appointments appearing in the front part of the Journal.

### BUILDING AND DECORATING (See also Housing Schemes)

**Alton, Hants.**—U.D.C. have approved scheme for the erection of a pavilion for the bowling green in the public gardens. Estimated cost £1,500.

**Amphill, Beds.**—C.C. to submit to Home Office for approval, sketch plans for a court house at Woburn Road. Estimated cost £39,500.

**Bakewell, Derbys.**—Sheffield Regional Hospital Board recommended to appoint L. Fletcher, North Church Street, quantity surveyor for sanitary accommodation at Newholme Hospital.

**Barnard Castle, Dur.**—Boothman and Hillery Ltd., Queen Street, to erect warehouse. Plans approved.

**Barnsley, Yorks.**—Sheffield Regional Hospital Board recommended to appoint Fairhurst and Poppleton, 7 Regent Street, architects for reorganisation of casualty and out-patient department at Beckett Hospital.

**Basford, Notts.**—Sheffield Regional Hospital Board recommended to appoint M. E. G. Felton, Oxford House, Oxford Street, Nottingham, quantity surveyor for improvements at Basford Hospital.

**Belfast.**—Richardsons Chemical Manure Co., Ltd., and Ulster Manure Co., Ltd., 19 Short Strand, Belfast, propose to erect a new factory at Herdman Channel. Estimated cost £2m.

**Belper, Derbys.**—R.D.C. have granted planning permission for the erection of a factory extension at Ambergate, for Richard Johnson and Nephew.

**Boston, Lincs.**—Sheffield Regional Hospital Board recommended to appoint F. I. Lenton and Partners, 16 Finkin Street, Grantham, architects for extensions to X-ray department at London Road Hospital.

**Bournemouth, Hants.**—B.C. have approved schemes for enlarging the Law Courts and repairing and repainting at the Winter Gardens. Estimated cost £35,000 and £4,000 respectively.

Wessex Regional Hospital Board have approved the construction of a cobalt unit room at Boscombe Hospital. Estimated cost £5,000.

**Bury St. Edmunds, Suffolk.**—East Anglian Regional Hospital Board recommended, subject to Ministry approval, to invite tenders for the construction of a nurses' home at West Suffolk General Hospital.

**Cardiff.**—City Council recommended to approve scheme for the installation of a small oven at the College of Food Technology. Estimated cost £700.

**Cardigan.**—B.C. to prepare plans for the erection of a lock-up shop and shop with living accommodation at Maesglas estate.

**Carlisle, Cumb.**—A financial company has offered to buy property in Bank Street, West Tower Street, Lowther Street, English Street, Scotch Street, and to erect a large block of shops and offices on the site. The site of the proposed development covers about six acres and, subject to negotiations being completed satisfactorily, the rebuilding scheme would take between two and three years to complete, and the cost has been estimated at between £2m. and £3m. J. D. Wood and Co., Berkeley Square, London, and W. L. Tiffen and Sons, estate agents, The Crescent, Carlisle, are acting for the proposed developers. Preliminary plans for the scheme have been prepared by Huckle and Durkin, Queen Anne's Gate, London.

City Council recommended to spend £5,000 replacing Eden Youth Centre.

**Chester-le-Street, Dur.**—R.D.C. have provisionally approved plans for motel with 58 bedrooms and ancillary facilities, including

restaurant and bars, on the Great North Road, Birtley, for Highways Motels, Ltd., Sunderland. The architects are Matkin and Hawkins, Barclays Bank Chambers, Fawcett Street, Sunderland. R.D.C. to spend about £25,000 on site development works on the Pelton Vicarage site. J. W. Marsh, Durham Road, Sacriston, is to erect two shops and flats in Durham Road. The architect is F. Hedley, Farnley Mount, Neville's Cross, Durham.

**Chester-le-Street, Dur.**—Vaux and Associated Breweries, Ltd., Sunderland, are applying to the licensing authorities for permission to erect a new public-house to be known as Whitehill at Waldrige Road. E. M. Lawson, architect, Barras Buildings, Barras Bridge, Newcastle upon Tyne.

**Chichester, Sussex.**—City Council recommended to prepare scheme for alterations to the Public Mortuary.

**Darlington, Dur.**—J. V. Spencer, 171 Albert Road, Middlesbrough, is the architect for factory additions for Tin Boxes, Ltd., and Cordingley and McIntyre, Owengate, Durham City are the architects for extensions, for F. Bookless and Co., Ltd., Aycliffe.

**Derby.**—Sheffield Regional Hospital Board recommended to appoint Young and Hall, 9 Southampton Row, London, W.C.1, architects for dental out-patients' department at Derbyshire Royal Hospital.

**Doncaster, Yorks.**—Sheffield Regional Hospital Board recommended to appoint George Trew and Dunn, 50 Eastbourne Terrace, London, W.2, architects for low grade patients' block at St. Catherine's Hospital, and Messrs. Gleds, 7 Clinton Terrace, Doncaster, quantity surveyors for provision of lift and connecting corridor at maternity unit, Western Hospital.

**Easington, Dur.**—Horden Pentecostal Church are to erect a new church at Sunderland Road, Horden. The minister is J. Seward, 33 Murray Street, Horden.

**Gateshead, Dur.**—The Liner Concrete Machinery Co., Ltd., are to extend their workshops and offices near Shearlegs Road.

Housing Committee are to erect 138 garages at a cost of £20,700.

**Grimsby, Lincs.**—Sheffield Regional Hospital Board recommended to appoint John Watson and Carter, 4 Abbey Walk, Grimsby, quantity surveyors for adaptation at Air Sea Rescue Station, Immingham.

**Hinckley, Leics.**—Sheffield Regional Hospital Board recommended to appoint Pick, Everard, Key and Gimson, 6 Millstone Lane, Leicester, architects for accommodation for chronic sick patients at Sunnyside Hospital.

**Houghton-le-Spring, Dur.**—J. M. Angus, 1 Gallowgate, Newcastle upon Tyne, is the architect for alterations and additions to club premises, for the Philadelphia and New Herrington Club; The Howard Collings group of companies propose converting the Coliseum Cinema into shops. The architect is I. Hodges, 52 Upper Berkeley Street, London, W.1.

**Humberstone, Leics.**—Sheffield Regional Hospital Board recommended to appoint Pick, Everard, Key and Gimson, 6 Millstone Lane, Leicester, architects and Wood and Weir, Guardian House, 64 Charles Street, Leicester, quantity surveyors for modernisation of ward 6 at The Towers Hospital.

**Middlesbrough, Yorks.**—Final plans to be prepared for the Thorntree Community Centre, for the E.C. The architects are Needham, Thorpe and White, High Petergate, York, and C. E. Peverley, Church Street, York, has been appointed quantity surveyor.

**Newcastle upon Tyne.**—Plans prepared by L. J. Couves and Partners, Grainger Chambers, Hood Street, for the erection of a steel-framed building at Elswick Court; a site has been cleared at Eldon Place for the erection of a new maths and science building for the Council of King's College. No tenders have yet been obtained, but work is scheduled to start later this year. Richard Sheppard, Robson and Partners, 5 Southampton Place, London, W.C.1, are the architects.

T. and G. Allan, Ltd., have bought Tilley's Restaurant, Blackett Street, for shop extensions.

**North Shields, Northumb.**—Newcastle Hospital Board recommended to approve additional sanitary annexes at Preston Hospital. P. H. Knighton, chief architect.

**North Riding.**—Davis, Belfield and Everest, 9 Ashley Place, London, S.W.1, have been appointed quantity surveyors for E.C.'s pro-

posed new modern school at Nunthorpe. The architects are R. Sheppard, Robson and Partners, Southampton Place, London, W.C.1. Tenders are to be obtained from selected firms for site investigation at the proposed Loftus Modern School, for E.C. The architects are Hadfield, Cawkwell and Davidson, 17 Bromgrove Road, Sheffield.

**Norwich.**—East Anglian Regional Hospital Board have invited tenders from selected contractors for the construction of the administrative block and recreation hall as the first stage of the Little Plumstead Hospital development. Estimated cost £102,000.

**South Shields, Dur.**—The Regent Oil Co., Ltd., 117 Park Street, London, W.1, are to use the site of the Pavilion Cinema, for the construction of a petrol filling station; The Esso Petroleum Co., Ltd., Manchester propose similar premises at Coronation Street.

Factory extension of about 6,000 sq. ft. is proposed for S. Newman, Ltd. Jack Cotton, Ballard and Blow, architects, Haymarket House, Newcastle upon Tyne.

**Spennymoor, Dur.**—G. A. Gray, Ltd., Low Grange Road, are to extend their factory.

**Stockton-on-Tees, Dur.**—Appleton and Hall, 134 High Street, have prepared plans for offices and warehouse at Yarm Road for Whitelocks, Ltd., Wellington Street.

**Sunderland, Dur.**—Rank Organisation are considering converting the Gaumont Cinema, Fawcett Street, into shops and offices. Outline plans by Ardin and Brookes, 129 Mount Street, London, W.1, Borough Architect to prepare plans, etc., for replacing the Eden Vale ambulance depot.

North-Eastern Trading Estates, Ltd., Team Valley, Gateshead are to extend factories at Sunderland on behalf of Ericsson Telephones, Ltd., and the Gresley Machine Co., Ltd.

Flowers Breweries (Northern), Ltd., Park Street West, Luton, Bedfordshire, are planning the erection of public house at the junction of Avonmouth Road and Ashdown Road, Farringdon estate.

### ELECTRICAL

**Bromley, Kent.**—B.C. recommended to prepare and submit to Ministry for approval scheme for the installation of traffic signals at Masons Hill and Westmorland Road junction.

**Woolwich.**—L.C.C. approved a grant of £7,600 to the Governors of Woolwich Polytechnic for the installation of an electric goods lift.

### GAS AND WATER SUPPLY

**Wisbech, I. of E.**—Ministry have approved the Wisbech water improvement scheme, for the Water Board. Estimated cost £10,659.

### PLAYING FIELDS, PARKS, ETC.

**Ashton-under-Lyne, Lancs.**—B.C. recommended to apply for sanction to borrow £1,000 for construction of running track at Richmond playing fields.

**Burnley, Lancs.**—B.C. recommended to make provision in next year's estimates for a £3,500 garden at Pickup Croft.

**Kent.**—E.C. have approved the conditioning of land for playing fields at Aylesham Secondary School. Estimated cost £4,600.

**Kirkby, Lancs.**—U.D.C. have approved development of land known as Webster's Pits. Estimated cost £23,000.

**Sowerby Bridge, Yorks.**—U.D.C. recommended to restore Beech recreation ground. Estimated cost £7,337.

### RIVER AND FLOOD PREVENTION WORKS

**Bradwell-on-Sea, Essex.**—Essex River Board have approved scheme for improving the Down Westwick Wall. Estimated cost £31,400.

**Jaywick, Essex.**—Essex River Board have approved stage two of the reconstruction of Brooklands Wall and a sluice to drain the Brooklands area. Estimated cost £62,000 and £2,500, respectively.

**Rye, Kent.**—Kent River Board have approved, subject to Ministry approval, the Rye Harbour Sluice Scheme.

### ROADS, BRIDGES AND SITE WORKS

**Ashton-in-Makerfield, Lancs.**—M.T. have approved estimate of £7,308 for work on trunk road A.49, for U.D.C.



## CONTRACTS

Full details of the Contracts marked \* will be found in our Advertisement Columns.

### BUILDING AND DECORATING (See also Housing Schemes)

**Bromley, Kent.**—B.C. recommended to approve plans for private street works in Lownds Avenue, extension of Lownds Avenue into Holwood Road, and reconstruction works between the private street works and widened section of White Hart Slip, estimated cost £3,563, £5,780 and £976, respectively; scheme for laying out the former day nursery site at Elmfield Road, as a car park, £1,100.

**Burnley, Lancs.**—M.T. have approved 75 per cent. grant towards the next section of the ring road—the Church Street to Grimshaw Street link, for B.C. Estimated cost £238,000.

**Canterbury, Kent.**—City Council propose, subject to M.T. approval, a £5m. plan for roadworks, including the Inner Ring Road and A.2 diversion to Wincheap Green, which it is hoped to commence in 1960-61. Estimated cost £430,000.

**Chelmsford, Essex.**—B.C. have approved, in principle, scheme for the realignment of Victoria Road/Duke Street.

**Eastry, Kent.**—R.D.C. to apply to Ministry for permission to make-up the unadopted road leading from the Market Square to Milner Crescent, Aylesham. Estimated cost £2,100.

**Edinburgh.**—The Board of Management propose improvements at the east entrance to the Royal Infirmary. Estimated cost £7,500.

**Halstead, Essex.**—U.D.C. have approved the resurfacing of White Horse Avenue. Estimated cost £800.

**Lancashire.**—C.C. have approved removal of a traffic bottleneck on the Liverpool-Preston Trunk Road, A.59, north of Aintree. The existing 26ft. carriageway is to be widened to provide dual two-lane carriageways, with a cycle track and footpaths, over a length of about 500yd. This will involve the demolition of a bridge carrying an abandoned railway over the road; construction of a new bridge over the River Alt, and of a culvert to carry a stream diversion. Bridgeworks to be carried out by contract. Roadworks by Direct Labour. Total cost £107,000. Work starting in March.

**Maidenhead, Berks.**—B.C. recommended to submit to M.T. for approval, scheme for the extension of the car park in Moffatt Street; approve revised scheme for making-up Altwood Close.

**Rainford, Lancs.**—U.D.C. applying for sanction to borrow £3,917 for site preparation for the Derby Drive housing scheme extension.

**Reading, Berks.**—B.C. recommended to approve in principle, plan for the Inner Ring Road; invite tenders in due course for site preparation works off St. Michael's Road.

**Rushden, Northants.**—U.D.C. have approved plans for making-up Alpine Road; to prepare plans for making-up Morris Avenue from St. Margaret's Avenue to Church Hall Road.

**Swansea.**—Highways Committee to apply for grant aid and sanction to borrow £678,000 for a new section of the east side approach scheme from the eastern side of New Cut Bridge to York Street Bridge involving a new bridge, dual carriageways and traffic roundabouts and a pedestrian subway.

### SEWERAGE, SEWAGE AND REFUSE DISPOSAL

**Ashton-under-Lyne, Lancs.**—B.C. recommended to invite tenders for reconstruction of Plantation Farm sewage disposal works. Charles J. Lomax and Son, consulting engineers, 37 Cross Street, Manchester, 2. Estimated cost £300,000.

**Driffield, Yorks.**—R.D.C. to apply for sanction to borrow 1,819 for sewer extension at Wetwang to link up Station Hill council houses with the village sewage disposal scheme.

**Maidstone, Kent.**—R.D.C. recommended to proceed with the Laddingford sewerage scheme. Estimated cost £25,000.

**Whitehaven, Cumb.**—Borough Surveyor has submitted a report to the B.C. on the provision of a foul drainage system for Sandwith village. Estimated cost £28,000.

### STREET LIGHTING

**Blackburn, Lancs.**—B.C. recommended to approve scheme for conversion to electricity of street lighting. Estimated cost £6,200.

**Burnley, Lancs.**—B.C. to spend £6,010 on conversion of lighting on Rossendale Road and Glen View Road.

**Durham.**—City Council have approved new street lighting in South Road, Percy Terrace, Floss Street, Mowbray Street, Waddington Street, Atherton Street East, New Street, Mitchell Street, Neville Street and Elvet Waterside. Estimated cost £4,090.

**Halstead, Essex.**—U.D.C. have approved improvements to the present street lighting system. Estimated cost £2,000.

**Lichfield, Staffs.**—City Council have approved scheme for lighting Sandford Street and other roads adjoining the western by-pass. Estimated cost £1,500.

**Southport, Lancs.**—B.C. to include £34,898 in next year's estimates for street lighting conversion from gas to electricity.

**Aberdare, Glam.**—Alterations to outbuildings and other accommodation works at Nantgoch, Llanidoced, necessary for Road improvement, for U.D.C. Documents from the office of the Engineer and Surveyor, Vestry Hall, Green Street, Aberdare. Deposit £2 2s. Tenders by March 19.

**Aberdeen.**—Painter and glazier works in connection with proposed office extension at Albert Quay, for Isaac Spencer and Co. (Aberdeen), Ltd. Documents from Jenkins and Marr, architects, 3 Bon-Accord Crescent, Aberdeen. Tenders by March 3.

**Aberdeen.**—Erection of an infant school Kincorth, for City Council: (1) Excavator, concrete, mason and brick, etc., works; (2) reinforced and prestressed concrete works; (3) carpenter and joiner work and fittings; (4) steel window installation; (5) asphalt work; (6) plaster and cement work; (7) plumber work; (8) heating engineer work; (9) electrical engineer work; (10) glazier and painter work; (11) terrazzo work; (12) composition flooring; (13) door ironmongery and furniture; (14) blacksmith work. Documents from J. A. O. Allan, Ross and Allan, architects, 10 Bon-Accord Square, Aberdeen.

**Armagh.**—Extension building to Annvale House, Keady, for County Welfare Committee. Documents from George D. Taylor, architect, 27a English Street, Armagh. Deposit £3 3s. Tenders by March 5.

**Ballymoney, Antrim.**—Construction of a shelter and public lavatories at Portballintrae, for R.D.C. Documents from R. Robinson and Sons, engineers, Riada House, Ballymoney. Deposit £2 2s. Tenders by March 3.

**Barking, Essex.**—Provision and driving of 31 precast concrete piles or precast concrete shell piles with reinforced concrete foundation beams and slabs for the proposed community Hall on Thames View housing estate, for B.C. Documents from the Borough Engineer and Surveyor, Town Hall, Barking. Tenders by March 7.

**Belfast.**—Repairs to ash bunker and conveyor steelwork (spec W.174) at Power Station East, for City Council. Documents from the Electricity Department, East Bridge Street, Belfast, 1. Deposit £1 1s. Extra copies of documents 10s. 6d. each which will not be returnable. Cheques payable to the Belfast Corporation Electricity Department. Tenders by March 4.

**Belfast.**—Alteration to rooms A.25 and 26, College of Technology, College Square East, to form advanced mechanical engineering workshop and metrology laboratory, for City Council. Documents from Education Architect's Department, 40 Academy Street, Belfast, 1. Tenders by March 3.

**Beverley, Yorks.**—External painting of 172 houses at Bishop Burton, Little Weighton, Skidby and Wakington, for R.D.C. Documents from G. Palfreyman, architect and surveyor, 22 Laigate, Beverley. Deposit £1 1s., cheque payable to Council. Tenders by March 15.

**Birkenhead, Ches.**—Erection and completion of Nocturnum High School for Girls, New Hey Road, Woodchurch estate, for B.C. Documents from the Borough Architect, 3 Conway Street, Birkenhead. Deposit £5 5s. Tenders by March 23.

**Blackwell, Notts.**—External painting of 636 dwellings at Blackwell, Shirebrook, South Normanton and Tibshelf, for R.D.C. Documents from the Architect and Housing Superintendent, 100 Chesterfield Road South, Mansfield, Notts. Deposit £1 1s. Tenders by March 16.

**Braintree, Essex.**—R.D.C. invite applications from persons, firms and companies who wish to be included on the Council's list of selected tenderers for the supply of all or any of the services, goods or articles required by contract within the following trade categories: List (1) Building contractors; (2) public works contractors; (3) electrical contractors; (4) building materials (excluding those in list 5), paint, etc.; (5) stoves, baths and sanitary ware; (6) electrical fittings (including cookers, coppers, etc.); (7) motor vehicles; (8) motor vehicles fittings and components; (9) water mains and fittings; (10) protective clothing. Documents from the Clerk of the Braintree Rural District Council, St. Peter's Close, Bocking, Braintree. Firms already on the Council's lists need not apply, as they will be supplied with notification forms automatically. Tenders by March 2.

**Breconshire.**—Part external painting of Ashburnham House, Talgarth, for C.C. Applications to County Architect, Rhdyd Offices, Brecon, by March 4.

**Breconshire.**—External painting and repairs of the Brynmawr Clinic, for C.C. Documents

from T. Jestyn Williams, county architect, Rhdyd Offices, Brecon. Tenders by March 4.

**Breconshire.**—Internal painting of the court rooms, retiring rooms, entrance, lobby and side staircase of the County Hall, Brecon, for C.C. Documents from the County Architect, Rhdyd Offices, Brecon. Tenders by March 4.

**Brecknock, Brecons.**—Following, for R.D.C. Erection of a new Council chamber and extension to the existing office accommodation at Oxford House, The Watton, Brecon. The total area of the extension is approximately 4,000 super. ft., i.e., 2,000 super. ft. on each of two storeys. Documents from Merton Jones and Richards, architects, St. Mary's Chambers, Abergavenny. Deposit £3 3s. Tenders by March 17.

**Bromsgrove, Worcs.**—External repainting work, for U.D.C.: Section (1) Broad Street, Bromsgrove, Maple Road, Rubery—86 units; (2) Chardford, Bromsgrove—116 units; (3) Chardford, Bromsgrove—112 units. Documents for all or separate sections from the Housing Manager, Council House, Bromsgrove. Tenders by March 1.

**Buckinghamshire.**—Following building projects, for C.C.: Slough, William Penn C. Secondary School—erection of new kitchen, cost in the region of £20,000; Marsh Gibbon C. of E. School—erection of two classrooms, cost in region of £10,000; Bledlow Ridge C.P. School—erection of two classrooms, cost in the region of £10,000; High Wycombe, Mill End Secondary Modern School—erection of a science laboratory, cost in the region of £12,000. Applications to the County Architect, County Offices, Aylesbury. Deposit £3 3s. each. Tenders by March 7.

**Bury, Lancs.**—Adaptations at school of arts and crafts, Broad Street, for B.C. Documents from Borough Engineer, Town Hall, Bury. Deposit £2 2s. Tenders by March 7.

**Clady, Armagh.**—Erection of primary school at Clady, for Rev. J. Kelly. Works comprise: (1) Three classroom school, complete with drainage, playgrounds, paths and fencing; (2) attached servery. Documents from W. H. McEvoy, quantity surveyor, 73 May Street, Belfast, 1. Deposit £5 5s. Plans seen at the offices of the Quantity Surveyor or L. P. Tierney, architect, 3 Kildare Street, Newry. Tenders by March 15.

**Cookstown, Tyrone.**—Painting of Molesworth Presbyterian Church and Manse, etc., for the Committee. Documents from S. R. Bolton, secretary, 41 Oldtown Street, Cookstown. Tenders by March 2.

**Cornwall.**—Extensions to provide additional classrooms at Bude-Stratton County Secondary School, for C.C. Applications to the County Architect, County Hall, Truro, by March 1. Deposit £3 3s. Tenders by March 26.

**Deben, Suffolk.**—Improvements to Council houses in the parish of Martlesham, for R.D.C.: Felixstowe Road—17 dwellings; Main Road—eight dwellings. The work consists of laying on water internally, provision of bathrooms, installation of w.c.'s and drainage system. Documents from the Engineer and Surveyor, Council Offices, Melton Hill, Woodbridge. Deposit £2 2s., contractors may tender for either or both of the sites. Tenders by March 9 (extension of date).

**Denton, Lancs.**—Erection of aged persons' communal centre and warden's flat at Forrest Road, Haughton Green, Dark Lane Farm estate No. 2 site, for U.D.C. Contract documents available on March 1, from the Engineer and Surveyor, Town Hall, Denton. Deposit £2 2s. Tenders by March 15.

**Droitwich, Worcs.**—External repainting of 30 Cornish unit flats (three-storey buildings) at Wychbold. 36 Cornish unit flats and 12 traditional houses at Hartlebury, for R.D.C. Documents from Engineer and Surveyor, Council Offices, Ombersley Street, Droitwich. Deposit £2 2s. Tenders by March 8.

**Droxford, Hants.**—Modernisation of the following houses, for R.D.C.: 1-12 Shore Crescent, Bishop's Waltham; 1-14 Stewarts Green, Hambledon; 1-12 Meonwara Crescent, West Meon. Documents from the Engineer and Surveyor, Northbrook House, Bishop's Waltham, Southampton. Tenders by March 21.

**Durham.**—Following, for C.C.: High Usworth New Modern School (a) Electrical installation; (b) heating and d.h.w. installations; (c) suspended ceilings; (d) playing fields; (e) cold asphalt to roads, paths, etc.; (f) precast floor units; (g) thermoplastic and vinyl tile flooring; (h) hardwood block and strip flooring; (i) w.i. balustrades; (k) ironmongery. Brandon Residential Nursery (a) Heating installation; (b) electrical installation. East Boldon Residential Nursery (a) Heating installation; (b) electrical installation. Applications to County Architect, South Street, Durham, by March 2.

**East Refford, Notts.**—External painting of dwellings, for B.C. All or any of the following contracts: (1) Fifty-two houses and 24 flats, West Hill estate; (2) 50 houses, Hallcroft estate; (3) 40 houses and eight bungalows, Hallcroft estate; (4) 36 houses and eight flats, Whinney Moor Lane estate. Documents from

the Borough Engineer and Surveyor, Municipal Offices, The Square, Retford. Tenders by March 18.

**East Suffolk.**—Erection of Lothingland Modern School of 26,500 sq. ft. floor area, in the grounds of Lound Hall, near Lowestoft, for C.C. Drawings seen at the County Hall, Ipswich, and on the site between 9 a.m. and 4 p.m. Applications to the County Architect, County Hall, Ipswich, before March 7. Tenders by April 7.

**East Sussex.**—Erection of a health services clinic at Mile Oak, Portslade. Applications to the County Architect, County Hall, Lewes, before March 14.

**Edinburgh.**—Northern General Hospital, new boiler house, boiler plant and equipment, renewal of heating installations, phase II, for Board of Management: (1) Boiler house structure; (2) electrical services; (3) steam boilers and auxiliary equipment; (4) boiler house pipework and ancillary apparatus; (5) boiler house instruments; (6) boiler house insulation; (a) building contractors wishing to tender for (1), applications to Cowan and Linn, chartered civil engineers, 1 Clifton Place, Sauchiehall Street, Glasgow, C.3; (b) heating engineering and insulation contractors wishing to tender for (2), (3), (4), (5) or (6), applications to Hutley and Kirkwood, consulting engineers, 5 Lynedoch Street, Glasgow, C.3, both by Feb. 27.

**Ennerdale, Cumb.**—External painting of houses, as follows, for R.D.C.: (Group 1) Cragg Road, Cleator Moor (20 Airey houses); (2) Yottenfews, Calderbridge (17 bungalows); (3) Thornhill (183 traditional houses); (4) Crossfield Road, Cleator Moor (10 prefab. bungalows). Documents from the Surveyor, Council Chambers, Cleator. Tenders by March 14.

**\*Friern Barnet, Middx.**—Construction of lock-up garages, for U.D.C. Tenders by March 8.

**Frimley and Camberley, Surrey.**—Construction of extensions to the Municipal Buildings, Camberley, for U.D.C. Documents from the Engineer and Surveyor, Municipal Buildings, Camberley. Tenders by March 21.

**Gloucestershire.**—Erection of old people's home, East Court, Charlton Kings, for C.C. Work will be in traditional construction with a floor area of approx. 16,700 sq. ft. Applications to County Architect, Shire Hall, Gloucester, by Feb. 27. Deposit £2 2s.

**Greenisland, Antrim.**—Proposed new primary school, St. Colman's Station Road, Greenisland, for Rev. Father McKenna: Building contractors (1) New Primary school and site works; (2) school meals accommodation. Heating contractors (1) Space heating installations to new school. Plumbing contractors (1) Plumbing installation to new school; (2) plumbing installation to school meals accommodation. Electrical contractors (1) Electrical installation to new school; (2) electrical installation to school meals accommodation. Documents for building works from W. H. McEvoy, quantity surveyor, 73 May Street, Belfast. Deposit £5 5s. Documents for mechanical installation from Varming and Mulcahy, consulting engineers, 37 Malone Road, Belfast. Deposit £5 5s. Tenders by March 14.

**Halifax, Yorks.**—External painting of houses, for B.C. Applications to the Borough Engineer, Crossley Street, Halifax, by March 7. Deposit £1, cheques payable to Corporation.

**Hamshire.**—Fareham Courthouse, extensions, for C.C. Erection of an additional court room in traditional construction and having a floor area of approx. 1,300 sq. ft. Applications to the County Architect, The Castle, Winchester, by Feb. 29. Deposit £1 ls. cheque payable to County Treasurer.

**Hebburn, Dur.**—Erection of steelwork for four blocks of four-storey maisonnettes, for U.D.C. Contractors will be required to submit their own steelwork designs in accordance with B.S.S.449 and submit tenders for providing and erecting the steelwork. Applications to the Engineer and Surveyor, Council Offices, Argyle Street, Hebburn, by Feb. 29. It will be a condition of acceptance that the erection of steelwork shall commence within three weeks of the acceptance of a tender and thereafter that the erection of a block be completed each succeeding month.

**Hereford.**—Changing accommodation, King George's playing fields, for City Council. Documents from the City Surveyor, Town Hall, Hereford. Deposit £2 2s. Tenders by March 5.

**Hornsey, Middx.**—Erection of a changing pavilion at the Redeton Road playing field, London, N.8, for B.C. Applications to the Borough Engineer and Surveyor, Town Hall, Hornsey, London, N.8, by March 1. Tenders by March 21.

**Huntingdonshire.**—Following, for C.C.: (1) Painting (external) 45 dwellings in (1) Huntingdon district (six); (2) Farset district (13); (3) Ramsey St. Marv district (14); (4) Somersham district (12); (2) modernisation of three

cottages at (a) Farset Fen; (b) Warboys Fen; (c) Wistow Fen. Documents from the County Land Agent, Walden House, Huntingdon. Tenders by March 17.

**Inverness.**—Heightening of 10 chimney heads on two blocks of flats at Torvean Avenue and two chimney heads on one block of flats at Dalneigh, for B.C. Documents from the Burgh Architect, 11 High Street Inverness. Tenders by March 5.

**Inverness.**—Extension and repair of the terracing at the Ness Islands Dance Floor, for B.C. Documents from the Burgh Architect, 11 High Street, Inverness. Tenders by March 5.

**Isle of Ely.**—Decorating work at schools and other premises during the coming year, for C.C. Written applications to the County Architect, County Hall, March, by Feb. 27.

**Lanarkshire.**—Painter work at Carlisle H.G. School, for C.C. Applications, in writing, to Ian V. Paterson, county clerk, Lanarkshire House, 191 Ingram Street, Glasgow, by March 2.

**Lancashire.**—Supply and fixing of bronze entrance screens and metal curtain-walling at Ashton-under-Lyne Divisional Police Headquarters, for C.C. Applications to the County Architect, P.O. Box 26, County Hall, Preston, by 10.30 a.m., Feb. 29.

**Leeds.**—Exterior painting of dwellings at Roman Avenue and Beckett Park estate, for City Council. Documents from Director of Works, Sweet Street, Leeds, 11. Tenders by March 4.

**Liskeard, Corn.**—Construction of public conveniences at St. Saviour's Hill, Polruan, for R.D.C. Documents from the Council's Surveyor, Council Offices, Luxstowe House, Liskeard. Deposit £1 ls. Tenders by March 10.

**Liskeard, Corn.**—Cleaning down certain outer walls including cement painting treatment with waterproof, for R.D.C. The demolition of a water tank and construction of a felt roof is also required to be undertaken. Documents from the Surveyor, Council Offices, Luxstowe House, Liskeard. Tenders by March 10.

**Lisnabuck, Londonderry.**—Erection and completion of new lavatory block at Primary School, for the Rev. P. J. Monagle, P.P., Maghera. Documents from M. A. Fitzpatrick, architect and surveyor, Strand Chambers, 16-18 Strand Road, Londonderry. Deposit £4 4s. Tenders by March 10.

**Liverpool.**—External painting at the Malayan Teachers' Training College, Kirkby, for City Council. Documents from City Engineer and Surveyor, Municipal Buildings, Liverpool, 2. Tenders by March 7.

**Liverpool.**—Removal of existing fencing and supply and erection of boundary wall, etc., Queen Mary High School, for City Council. Documents from the City Engineer and Surveyor, Municipal Buildings, Liverpool, 2. Tenders by March 10.

**Margate, Kent.**—Erection of a new public library at Westgate, for B.C. Documents from the Borough Engineer, 38 Grosvenor Place, Margate. Tenders by March 19.

**Martley, Worcs.**—External painting of 48 houses, for R.D.C. Documents from the Surveyor, 1 The Tything, Worcester. Tenders by March 11.

**Milnrow, Lancs.**—Following exterior painting contracts, for U.D.C.: (1) 48 houses on the Holt housing estate; (2) 48 houses on the Holt housing estate; (3) 40 houses on the Holt housing estate; (4) 54 houses on the Holt housing estate; (5) 54 flats and three bungalows on the Firgrove housing estate. Documents from the Surveyor, Council Offices, Milnrow, Lancs. Tenders by March 7.

**Minehead, Som.**—Construction of bathrooms as additions to 40 houses at Lower Meadow Road, Alcombe, for U.D.C. Documents from the Engineer and Surveyor, Council Offices, 37 Blenheim Road, Minehead. Deposit £2 2s. Tenders by March 18.

**Montgomeryshire.**—Alterations and extensions to provide infants' cloakroom and sanitary accommodation at Machynlleth Primary School, for Education Authority. Documents from Director of Education, County Offices, Newtown. Tenders by March 14.

**Newcastle upon Tyne.**—Erection of a ladies' public convenience at the junction of Morden Street and Percy Street, for City Council. Application, in writing, to F. Austin Child and Donald Hall, architects, 6 Archbold Terrace, Newcastle upon Tyne. Tenders by March 10.

**Northern Ireland.**—Supply and laying of wood block and hardwood strip flooring in the extension to the Henry Garrett building, Stranmillis Training College, Belfast, for Ministry of Finance. Documents from Room 103, Law Courts Building, Belfast, 1. Tenders by March 3.

**Northumberland.**—Erection of the first stage of Ovingham County Primary School, for C.C. Applications to the County Architect, County Hall, Newcastle upon Tyne, 1, by March 1. Deposit £2 2s., cheques payable to County Treasurer.

**Oldham, Lancs.**—Works in erecting a pair of semi-detached houses at Breeze Hill Secondary Modern School, for B.C. Documents from Schools Architect, Education Offices, Union Street West, Oldham. Deposit £2 2s. Tenders by March 10.

**Omagh, Tyrone.**—External painting of 107 houses in the Omagh rural area, for R.D.C. Documents from the Council Offices, Lisnamallard, Omagh. Tenders by March 2.

**Omagh, Tyrone.**—Erection of bedroom, bathroom and scullery and the carrying out of repairs to cottage 153, Aughlish, Dromore, and erection of scullery and bathroom and the carrying out of repairs to cottage 429, Carnalea, Fintona, for R.D.C. Documents from the Council Offices, Lisnamallard, Omagh. Deposit £2 2s. Tenders by March 2.

**Orkney.**—Proposed new primary school, Kirkwall, for Education Authority. Documents from the County Architect's Department Mounthoolie Lane, Kirkwall, Orkney. Tenders by March 14.

**Ossett, Yorks.**—External painting of 242 houses and other properties in nine contracts on the various estates, for B.C. Documents from the Borough Surveyor, Town Hall, Ossett. Tenders by March 7.

**Pembrokeshire.**—Erection of a proposed new police station at Milford Haven, for C.C. Construction will be traditional with load-bearing walls, concrete roofs, etc., and comprises a four-cell station, inspector's flat and garage, etc. Contractors will be required to give proof that they are in a position to provide labour and staff in order to carry out this contract in an expeditious and workmanlike manner. Applications to Lt.-Col. Walter Barrett, county architect, County Offices, Haverfordwest, before March 2. Deposit £2 2s.

**Pembrokeshire.**—Proposed new dining hall and scullery at Neyland C.P. School, for Co. E.C. The building is of traditional construction and comprises dining hall and ancillary rooms, including scullery and entrance hall, etc. Applications to Lt.-Col. Walter Barrett, county architect, County Offices, Haverfordwest, before March 2. Deposit £2 2s.

**Petersfield, Hants.**—Following, for R.D.C.: External painting of 223 houses and flats at Bramshott, Clanfield, East Meon, Hordean, Langrish, Liss, Petersfield, Rowlands Castle, Steep and Weston, and 21 garages at Liphook and Hordean. Documents from Housing Manager, The Old College, Petersfield. Tenders by April 2.

**Reading, Berks.**—Construction of a lift shaft with ancillary works at 1-4 Southern Hill, for B.C. Documents from the Borough Architect, Town Hall, Reading. Tenders by March 14.

**Rochdale, Lancs.**—Following, for B.C.: (1) Erection of clinic, Spotland; (2) erection of clinic, Kingsway; (3) alterations, Greenbank Junior School; (4) alterations, Baillie Street Further Education Centre. Documents from Borough Surveyor, Town Hall, Rochdale. Tenders by March 25 for (1), (2) and (3), March 14 for (4).

**Rugby, War.**—Construction of brick foundations and brick substructure for a new greenhouse, boiler house and fuel bunker at Caldecott Park, for B.C. The work involves building in 9in. brickwork, the laying of concrete paths inside and outside greenhouses, and some small drainage works. Documents from Borough Surveyor, Burford House, Rugby. Tenders by March 7.

**Rugby, War.**—Modernisation of 100 Council houses at Croop Hill estate, for B.C., comprising provision of bathrooms, installation of domestic hot water systems, and incidental works. Documents from the Borough Surveyor, Burford House, Rugby. Deposit £2 2s. Tenders by March 1.

**Ruthin, Denbighs.**—Repair and partial re-slating of the Council Offices, Well Street, Ruthin, for R.D.C. Documents from the Engineer and Surveyor, R.D.C. Offices, Well Street, Ruthin. Tenders by March 5.

**Rutland.**—Construction of extensions to the Uppingham Secondary Modern School, Uppingham, for Co. E.C. The extensions consist of a new hall/gymnasium, two classrooms, library, art room and workshop block together with ancillary accommodation. Documents from the office of the County Architect and Planning Officer, County Offices, Catmose, Oakham. Plans seen on or after March 5. Deposit £2 2s. Tenders by March 28.

**Sale, Ches.**—External painting of 360 dwellings in various parts of the Borough, for B.C. Documents from the Borough Engineer's Department, Town Hall, Sale. Tenders by March 8.



**Salford, Lancs.**—Supply and erection complete, upon concrete slabs, of six garages, 18ft. x 9ft., or alternatively, one block of six garages, each garage of the above size, for City Council. The garages are to be erected on land adjoining the Police Headquarters, Irwell Place. Quotations should include for supply, delivery, unloading, all necessary handling and erection of the units, supply and fixing of doors and painted complete. The quotation should also include for supply and laying of the concrete slabs upon which the garages are to be erected (not a complete floor). No provision to be made for windows. Detailed drawings and specifications should be sent, with the quotation, to the Chief Constable, City Police Office, Crescent, Salford, 5, by 10 a.m. March 14.

**Sheffield.**—Interior and exterior painting at various schools, for City Council. Documents from T. H. Tunn, director of education, Education Office, Leopold Street, Sheffield, 1. Tenders by March 4.

**Southport, Lancs.**—Erection of a shower and changing room block at the King George V School, Scarisbrook New Road, for B.C. Documents from the Borough Architect and Town Planning Officer, 99-105 Lord Street, Southport. Deposit £2 2s. Tenders by March 11.

**Spilsby, Lincs.**—Office building, Sea Lane, Ingoldmells, for R.D.C. Applications to the Engineer and Surveyor, Council Offices, Toynott Hall, Spilsby. Deposit £3 3s. Tenders by March 18.

**Sunbury-on-Thames, Middx.**—Internal redecoration in about 91 houses, etc., at Beechwood Avenue, Kenyington Drive, for U.D.C. Documents from the Engineer and Surveyor, Council Offices, Sunbury-on-Thames. Tenders by March 5.

**Tynemouth.**—External repainting of 1,058 houses in nine groups on Marden and Chirton Grange estates, for B.C.: (1) Chirton Grange (116 dwellings); (2) Chirton Grange (108); (3) Chirton Grange (134); (4) Marden Grange (114); (5) Marden Grange (110); (6) Marden Grange (122); (7) Marden Grange (116); (8) Marden Grange (122); (9) Marden Grange (116). Contractors may tender for any or all of the groups, but work undertaken must be completed by Oct. 1. Documents from the Borough Surveyors Office, 16 Northumberland Square, North Shields. Tenders by March 8.

**Watford, Herts.**—Extensive alterations and additions to the Oxhey Pavilion in Green Lane, Oxhey, including changing accommodation, refreshment room, lavatories, drainage work, etc., for R.D.C. Applications to S. A. Nicholson, clerk to the Council, Council Offices, Wynward House, 99 Langley Road, Watford, by March 5. Deposit £2 2s.

**Wednesbury, Staffs.**—External painting of 790 council houses on various estates, for B.C. Documents from the Borough Engineer, Town Hall, Wednesbury. Deposit £3 3s., cheque payable to Wednesbury Corporation and crossed. Tenders by March 12.

**West Lothian.**—Painter work required to be executed in erection of primary school at Armadale, for C.C. Applications to Robert T. B. Gilray, 60 Castle Street, Edinburgh. Plans seen at the office of John A. W. Grant, chartered architects, 36 Melville Street, Edinburgh, or at the County Architect's Office, Linlithgow.

**West Riding.**—Following, for C.C.: (1) Renewal of floors, in hardwood strip flooring, at the Highfields Secondary and Primary Schools, Highfields, near Doncaster. and (2) internal and external painting of certain school premises in the Don Valley Division. Documents from the Divisional Education Officer, County Area Offices, Station Road, Doncaster. Tenders by March 8.

**West Riding.**—Painting of the following schools, for C.C.: Internal and external painting—Skipton Christ Church (controlled) and Aireville Secondary (Otleigh Street Annex); internal painting—Steeton County Primary, Earby County Secondary and Upper Wharfedale County Secondary; internal (including scullery) and entrance—Applethorpe County Primary. Documents from D. Marthew, divisional education officer, Education Office, Water Street, Skipton. Tenders by March 2.

**West Riding.**—Painting works at the following schools during the period of the schools' Easter and Whitsun holidays, for C.C.: Brighouse Raistrick Secondary School, internal and external painting; Brighouse Lightcliffe C.E. School, internal painting; Brighouse St. Joseph's R.C. School, internal painting; Queensbury Foxhill Primary School, internal and external painting. Documents from the Acting Divisional Education Officer, Halifax Road, Brighouse. Tenders by March 7.

**W'shech, Isle of Ely.**—External painting of approximately 172 dwellings, for R.D.C. Documents from the Surveyor, Council Offices, Alexandra Road, Wisbech.

**Wisbech, Cambs.**—External painting of the following, for B.C.: (a) Thirty houses, West Parade; (b) 56 houses, Walsoken; (c) 104 houses, Southwell Road; (d) 116 houses, eight

flats and six bungalows, Tinker's Drove estate. Documents from the Borough Engineer, Church Terrace, Wisbech. Tenders by March 5.

**Wolverhampton.**—Following, for B.C.: Erection and completion of 235 garages of brick walls and asbestos roof construction, including site works and laying of soled forecourts, to be erected in groups of various numbers on 14 different sites in Wolverhampton, Wednesfield and Tettenhall. Written applications to the Borough Engineer, Town Hall, Wolverhampton, by March 4. Deposit £2 2s.

**Workshop, Notts.**—Additional changing accommodation at swimming pool, Workshop, for B.C. Documents from Borough Engineer, Park House, Workshop. Deposit £3 3s. Tenders by March 4.

**Wortley, Yorks.**—Supply and erection of 11 multiple garages on a prepared site at Grenoside, near Sheffield, for R.D.C. Details from the Engineer and Surveyor, Council Offices, Grenoside. Tenders by March 11.

**York.**—External painting work as follows, for City Council: Section 1—180 traditional houses, 72 traditional flats; section 2—230 traditional houses, six garages; section 3—180 traditional houses; section 4—180 traditional houses, 16 traditional flats; section 5—240 traditional houses, 18 garages; section 6—47 traditional houses; section 7—62 traditional houses, 20 traditional flats, six garages; section 8—117 traditional houses, 16 traditional flats. Documents from P. H. Hart, housing and estates manager, 4 St. Leonard's Place, York. Deposit £1 ls. Tenders by March 9.

**York.**—Execution of work in connection with the maintenance of school buildings, for City Council. The bulk of the work is to be carried out during the schools summer holidays and will embrace the following: (1) (a) Internal and external painting, (b) limewashing; (2) repairs and renewals: (a) boarded floors, (b) wood block floors, and (c) thermoplastic tile flooring; (3) slating work; (4) repairs: (a) plumbing, (b) linoleum, (c) brickwork, (d) joinery, (e) plastering and (f) chain link fencing; (5) resurfacing playground in asphalt; (6) painting of games lines in school yards. Contractors may submit tenders for any one or more of the above items in respect of any school. Applications to E. Firth, city architect, 8 St. Leonard's Place, York, by March 4. Deposit £1 (cheques payable to Corporation).

#### CLOTHING AND TEXTILES

**Belfast.**—Supply of uniform clothing (Form A.25) during 12 months commencing January 1, 1961, for City Council. Documents from the Transport Department, Sandy Row Depot, Belfast, 12. Tenders by March 15.

**Linarkshire.**—Supply of uniforms and waterproof coats for the year to May 15, 1961, to attendance officers and school janitors in the service of the Education Committee, for C.C. Schedules from the Director of Education, P.O. Box No. 1, Lanarkshire House, 191 Ingram Street, Glasgow, C.I. Tenders by March 11.

**Leeds.**—Following, for the Transport Committee: (a) Uniform serge; (b) making-up (i.e., C.M.T.) uniform clothing; (c) uniform caps; (d) electric lamps. Documents from A. B. Findlay, general manager, 1 Swinagate, Leeds, 1. Tenders by March 14.

**\*Northern Ireland.**—Supply of constabulary forces clothing, for Ministry of Home Affairs.

**Stockport, Ches.**—Supply and delivery of uniform clothing (suits, hats, and overcoats) for inspectors and watermen, for B.C. Documents from Engineer and Manager, Water Department, Town Hall, Stockport. Tenders by March 4.

**Tynemouth.**—Supply of uniforms, clothing, caps, boots, waterproofs, etc., required by the various departments during the year commencing April 1, 1960, for B.C. Documents from the office of the Town Clerk, 14 Northumberland Square, North Shields. Tenders by March 5.

#### DEMOLITION

**Bilston, Staffs.**—Demolition of industrial buildings on two sites in town centre, for B.C. Documents from the Borough Surveyor, Municipal Buildings, Hall Street, Bilston. Deposit £3 3s. Tenders by March 4.

**\*Bushey, Herts.**—Removal of hutment base slabs, air-raid shelter etc., for U.D.C.

**Halifax, Yorks.**—Making only of fire brigade uniform clothing and for the supply of caps, gloves, helmets, raincoats, leggings, shoes, boots, overalls, jerseys, shirts, collars, ties and socks, for B.C. Documents from the Town Clerk, Town Hall, Halifax. Tenders by March 9.

**Halstead, Essex.**—Demolition and clearance of the sites of eight properties, for R.D.C. Applications to Clerk of the Council, Rural Council Offices, Mount Hill, Halstead, by March 4.

**Hereford.**—Demolition of certain blocks of converted flats at Foxley, for City Council. Documents from City Architect, Town Hall, Hereford. Deposit £1 ls. Tenders by March 7.

**Isle of Wight.**—Demolition of air raid shelters in the Cowes and East Cowes, West Wight and Ventnor areas, for C.C. Applications to the County Architect, County Hall, Newport, I. of W., by March 3. Deposit £1 ls. Tenders by March 14.

**\*Montgomeryshire.**—Demolition of Llanfyllin town hall, for C.C. Deposit £2. Tenders by Feb. 29.

**St. Ives, Corn.**—Demolition of 1-5 Higher Stennack, for B.C. Documents from the Borough Surveyor, The Guildhall, St. Ives, Cornwall. Deposit £1 ls. Tenders by March 8.

**Sunderland, Dur.**—Demolition of eight properties in the central area, for B.C. Documents from the Borough Engineer, 27 Fawcett Street, Sunderland. Deposit £1 ls (cheques payable to Corporation). Tenders by March 19.

**Wokingham, Berks.**—Following, for B.C.: Demolition of 10-18 Denmark Street and 1-5 Exchange Cottages; demolition of 54-56 Denmark Street; construction of car park, Denmark Street, total area 3,834 super. yd. including demolition of buildings and alterations to footpaths. Documents from Borough Surveyor, Town Hall, Wokingham. Tenders by March 26.

#### ELECTRICAL

**Banbridge, Down.**—Electrical installation in the existing maternity block at Banbridge Hospital, for the Northern Ireland Hospitals Authority and Banbridge and Dromore Hospital Management Committee. Documents from McCandless and Barton, consulting engineers, 6 Murray Street, Belfast. Deposit £3 3s. each set. Tenders by March 7.

**Bristol.**—Improvements to electrical installations at pre-war dwellings, for City Council. Applications, in writing, to the Housing Manager, Council House, Bristol, 1, by March 4.

**Bangor, Down.**—Electrical installation in R.U.C. District Headquarters, for the Ministry of Finance. Documents from Room 103 Law Courts Building, Belfast, 1. Tenders by March 7.

**Belfast.**—A.C. motors and wiring to replace existing d.c. installation at consumers' premises (spec. W.173), for City Council. Documents from Electricity Department, East Bridge Street, Belfast, 1. Deposit £1 ls. Extra copies of documents 10s. 6d. each, which will not be returnable. Cheques payable to the Belfast Corporation Electricity Department. Tenders by March 4.

**Cardiff.**—Complete electrical installation at Canton Grammar School for Boys, Fairwater, for City Council. Documents from the City Surveyor, City Hall, Cardiff. Deposit £2 2s., cheques payable to Corporation. Tenders by March 15.

**Down.**—Complete electrical installation in the proposed new offices at Galwally, Belfast, for C.C. A rewirable low temperature radiant floor warming system is included in the contract. Documents from N. B. Mitchell, county planning officer, English Street, Downpatrick. Deposit £2 2s. Tenders by March 14.

**East Riding.**—Installation of electrical services at the Bridlington proposed fire station, for C.C. Applications to be made to the County Architect, County Hall, Beverley. Tenders by March 1.

**Luton, Beds.**—Following, for B.C.: (1) Electrical installation in new science building, etc., Luton High School; (2) electrical installations in two public conveniences, Stockwood Park. Documents from Borough Architect, Town Hall, Luton. Tenders by March 11 for (1) and March 4 for (2).

**Manchester.**—Supply and installation of underground 6.6 K.V. cables, together with low voltage control cable at the new terminal building, Manchester Airport, for City Council. Documents from City Architect, P.O. Box 488, Town Hall, Manchester. Tenders by March 7.

#### FENCING

**Islington.**—Supply of approx. 376 lin. yd. of 4ft. 6in. high iron railing fencing with four single and two double gates, and two ornamental iron gates, for B.C. Documents from the Borough Engineer and Surveyor, Town Hall, Upper Street, N.1. Tenders by March 1.

**West Fiding.**—The provision and erection of chain link fencing at Rossington Tornedale Infants' and Rossington proposed Boys' Secondary Schools, for C.C. Applications to the Divisional Architect, Planet Road, Adwick-le-Street, near Doncaster, by March 7. Tenders by March 21.

**West Riding.**—Supply of 370 lin. yd. of pavement barrier railings to sites at Thongs-



bridge and Delph, for C.C. Documents from the County Engineer and Surveyor, County Hall, Wakefield. Tenders by March 1.

#### GAS AND WATER SUPPLY

**\*Cirencester, Glos.**—Alternative water supply to South Cerney, etc., for R.D.C. Deposit £5 5s. Tenders by March 21.

**\*Cirencester, Glos.**—Water supply to South Cerney and adjacent villages, contract IV, for U.D.C. Deposit £3 3s. Tenders by March 21.

**Clackmannanshire.**—Turret water supply Scheme, distribution works, for C.C., comprising the laying of about 4½ miles of 24in., 21in., and 16in. diameter steel pipe with Viking Johnson couplings; 2½ miles of 21in. and 15in. diameter spun-iron pipe with Tynon joints and 5½ miles of 6in. and 4in. diameter asbestos cement pipe and other ancillary works in the area between bridge of Allan, Stirlingshire, and Fearn, near the eastern boundary of Clackmannanshire. The steel and spun-iron pipes and the valves are being purchased direct by the County Council. Contractors with resources available to ensure completion of the works within a period of 12 months should submit their names to Babbie, Shaw and Morton, consulting engineers, Blythswood Square, Glasgow, C.2, by Feb. 29.

**Cookstown, Tyrone.**—Construction of two 100,000-gallon service reservoirs, together with access roads, ancillary pipework, etc., in the townlands of Craigs and Creevagh, for R.D.C. Documents from R. Ferguson and S. McIlveen, consulting engineers, 15 College Gardens, Belfast, 9, or Rural Council Offices, Cookstown. Deposit £3s 3s. Tenders by March 11.

**\*Isle of Wight.**—Modernisation of Carisbrook pumping station, contract 2, for Water Board. Tenders by March 21.

**Manchester.**—Contract 324, Kingsgate, Wythenshawe, for City Council. (a) Manufacture, supply and erection of one 2,100-gallon sectional cast-iron covered water tank, and one make and break connector unit; (b) supply and fixing one auto-pneumatic booster pump equipment 4,800 gallons per hour capacity. Documents from the Director of Housing, Room 626, Town Hall, Manchester. Tenders by March 23.

**Markethill, Armagh.**—Water supply at Poultry Breeding Station, Gosford Castle estate, for the Ministry of Finance. Documents from Room 103, Law Courts Building, Belfast. 1. Tenders by March 2.

**Northamptonshire.**—Construction of a reinforced concrete water tower of 50,000 gallons capacity with associated pipework, situated at Rothwell, contract 443, for Mid-Northamptonshire Water Board. Documents from Leonard H. Brown, engineer and manager, Cliftonville, Northampton. Deposit £2 2s. Tenders by March 25.

**North Shields, Northumb.**—Supply, delivery and installation at the several sites of all or any of the following flow metering equipment, contract 16, for Coquet Water Board: (1) One recorder and transmitter for use in connection with a standing wave flume; (2) one rectangular compound weir with recorder and transmitter; (3) one rectangular weir with recorder and transmitter; (4) eight differential pressure measuring devices for incorporation in pipelines of sizes 36in., 30in., 24in. and 18in. diameters, together with recorders and transmitters; (5) two mechanical meters; (6) one instrument panel; (7) ancillary equipment for the above. Forms of tender, specifications and drawings may be obtained from S. G. Barrett, engineer and manager of the Coquet Water Board, P.O. Box 104, Pilgrim Street, Newcastle upon Tyne, 1. Tenders by March 14.

**Saffron Walden, Essex.**—Laying of water service pipes in the following areas: (1) The eastern area, comprising the parishes of Hadstock, Ashdon, Wimbish, Radwinter, Hempstead, Great Sampford, Little Sampford; (2) the western area, comprising the parishes of Great Chesterford, Little Chesterford, Littlebury, Stretthall, Elmdon, Chrishall, Wenden, Arkesden, Langley, Wicken, Clavering, Berden; (3) the central area, comprising the parishes of Newport, Widdington, Quendon and Rickling; (4) the southern area, comprising the parishes of Henham, Debden, Ugley, Elsenham, Stansted, Birchanger, Farnham and Manuden. Firms may tender for one or more areas. Documents from the Engineer and Surveyor, Council Offices, Debden Road, Saffron Walden. Tenders by March 12.

**Strood, Kent.**—Supplying and laying of 4in. diameter asbestos water mains approx. 1,100yd. in length together with appurtenant works at the recreation and holiday centre Allhallows-on-Sea, for R.D.C. Documents from the Engineer and Surveyor, Council Offices, Frindsbury Hill, Strood. Tenders by March 7.

**Wareham and Purbeck, Dorset.**—Wool water supply and sewerage schemes (second stage), contract 31, for R.D.C.: (a) The provi-

sion and laying of about three miles of 6in., 4in. and 3in. dia. spun-iron water mains and about ½-mile of polythene tube as house connections; (b) the provision and laying of about four miles of 9in. and 6in. dia. concrete and stoneware sewers, stoneware laterals as required, one mile of 6in. dia. spun-iron rising main, and the construction of two sewage pumping stations, together with other incidental works, all at Wool, in the county of Dorset. Documents from Arthur G. Flatt, engineer, Westport House, Wareham. Deposit £10. Tenders by March 28.

#### HARBOURS, PIERS AND SEA DEFENCE WORKS

**\*Norfolk.**—New sea wall and groyne at Happisburgh Cart Gap, for East Suffolk and Norfolk River Board. Deposit £5 5s. Tenders by March 25.

#### HEATING AND VENTILATING

**Birmingham.**—Installation of phases 1 and 1a of the central boilerhouse scheme at the Workshops for the Blind, Woodville Road, Harborne, for City Council. General conditions seen at the Mechanical and Public Lighting Department, 38 Cambridge Street, Birmingham, 1. Documents from Sir Herbert J. Manzoni, city engineer and surveyor, Civic Centre, Birmingham. Deposit £2 2s., cheques payable to Sir Herbert J. Manzoni, city engineer and surveyor. Tenders by March 8.

**Bristol.**—Installation of hot water systems in certain post-war dwellings, for City Council. Applications, in writing, to Housing Manager, Council House, Bristol, 1, by March 4.

**Clady, Armagh.**—Following works for the primary school at Clady, for Rev. J. Kelly. Heating contractors: 1—Heating installation to school building. Electrical contractors: 1—Electrical installation in school building; 2—electric installation in Servery. Documents from Liam P. Tierney, architect, (J. L. O'Hagar and Co.), 3 Kildare Street, Newry. Deposit £5 5s. Drawings seen at the offices of the architects or W. H. McEvoy, quantity surveyor, 72 May Street, Belfast. Tenders by March 15.

**\*Gateshead, Dur.**—Heating and electrical installations at proposed divisional fire station in Dryden Road, for Newcastle and Gateshead Joint Fire Services Committee. Tenders by April 11.

**Luton, Beds.**—Heating installation in new science building, etc., Luton High School. Documents from Borough Architect, Town Hall, Luton. Tenders by March 11.

**Wiltshire.**—(a) Installation of heating and cold water systems; (b) installation of electrical system, at Devizes Southbrook Controlled New Primary School (floor area approx. 15,850 sq. ft.), for C.C. Applications, with details of available labour force, organisation and particulars of any similar work carried out, to the County Architect, County Hall, Trowbridge, by March 4.

#### HOUSING SCHEMES

**Aylesbury, Bucks.**—Following, for R.D.C.: Twelve flats at Stone; 12 bungalows and 16 houses at Brill; four bungalows at Oving. Documents from Raymond C. White, of Raymond White and Ridley, 4 Temple Square, Aylesbury. Deposit £3, payable to R.D.C. Tenders by March 15.

**Barrhead, Renfrews.**—Erection of two-, and three-storey flats and cottage blocks, comprising 156 houses at the Aurs Drive site within the Auchenback scheme, for B.C. The houses will be all-electric, including under-floor warming and it is proposed that the contract will be executed in three phases. Applications to Wm. Baillie and Son, architects, 4 West Regent Street, Glasgow.

**Beverley, Yorks.**—Following works, for R.D.C.: (a) Two blocks of two-storey one-bedroom flats at Welton, contract 436; (b) three blocks of two-storey one-bedroom flats at Brough, contract 437. Documents from G. Palfreyman, architect and surveyor, 22 Lairgate, Beverley. Deposit £1 ls. each contract. Cheque payable to Council. Tenders by March 15.

**Blyth, Suffolk.**—Six bed-sitting room and two single-bedroom bungalows with siteworks at Wenhamston, for R.D.C. Documents from Housing Manager, Council Offices, Rendham Road, Saxmundham. Deposit £2 2s. Tenders by March 11.

**Boston, Lincs.**—Four three-bedroom houses in Wellington Road, Boston, for B.C. Documents from Borough Engineer, Municipal Buildings, Boston. Deposit £2 2s. Tenders by March 7.

**Buckie, Banffs.**—Erection of 34 four-roomed houses in following trades, for B.C.: Masonwork and fireplaces; carpenter and joiner; roof tiler; metal window fixer; electrician; plasterer and roughcaster; plumber; painter and glazier. Documents from John

Murray, burgh surveyor, Burgh Surveyor's Office, Town House, East, Buckie. Tenders by March 9.

**\*Caistor, Lincs.**—Erection of bungalows, for R.D.C. Deposit £3 3s. Tenders by March 9.

**\*Cannock, Staffs.**—Twenty-six dwellings and six garages at Brookhouse Lane, Featherstone, for R.D.C. Apply by March 5. Deposit £2 2s.

**East Riding.**—Three pairs of semi-detached houses, one garage, road works, sewers and drainage, at Bridlington, for C.C. Applications to the County Architect, County Hall, Beverley. Deposit £2, cheques payable to County Treasurer. Tenders by March 22.

**Esher, Surrey.**—External repainting of 20 houses, six bungalows and 12 flats at Grange Road and Brendre Gardens, West Molesey, contract 297, for U.D.C. Documents from the Engineer and Surveyor, Council Offices, Esher. Deposit £1 ls. Tenders by March 15.

**Holland.**—Following, for C.C.: (a) Erection of one district nurse's bungalow in Rotten Row, Pinchbeck; (b) erection of one district nurse's bungalow in West Elloe Avenue, Spalding; (c) erection of one pair of semi-detached police houses on Woad Farm Road, Boston. Documents from County Architect, County Hall, Boston. Tenders by March 7.

**Ilford, Essex.**—Two adjoining three-storey blocks of flats, comprising six bed-sitting-room and six one-bedroom flats, respectively at Atherton Road, for B.C. Documents from Borough Engineer, Town Hall on or about March 1, upon written application. Deposit £3 3s. Tenders by March 22.

**Ilford, Essex.**—Eighty-two houses, development between The Glade and Fullwell Avenue, for B.C. Documents from the Borough Engineer, Town Hall, Ilford on or about March 1, upon written application. Deposit £3 3s. Tenders by March 22.

**Lambeth.**—Forty-six flats in two- and three-storey blocks, and 12 houses, together with roads, etc., at the Windsor Grove site, Norwood High Street, London, S.E.27, for B.C. Submit names to Harry Moncrieff, architect, Co-operative Planning, Ltd., 73b South Side, Clapham Common, London, S.W.4, together with particulars of recent contracts, by noon, March 1. Bills of quantities will be issued on or about March 16, to those firms selected by the Council.

**Leyland, Lancs.**—Contract 31, one block of eight dwellings, Fox Lane, Wade Hall estate, for U.D.C. Documents from the office of F. D. Howe, engineer and surveyor, Council Offices, Leyland. Deposit £2 2s., cheques payable to U.D.C. Tenders by March 15.

**Long Ashton, Som.**—One block of four one-bedroom type aged persons' bungalows in the parish of Backwell, for R.D.C. Documents from G. K. Foster, surveyor, Long Ashton R.D.C., Council Offices, Flax Bourton, Bristol. Deposit £2 2s. Tenders by March 1.

**\*Ludlow, Salop.**—Three pairs of houses at Sandpits Avenue, for B.C. Deposit £2 2s.

**Matlock, Derbys.**—Proposed block of three Homeville one-bedroom type one B-2 bungalows at High Street, Bonsall, for U.D.C. Documents from the Engineer and Surveyor, Town Hall, Matlock. Plans seen by appointment. Deposit £3 3s. Tenders by March 11.

**Morley, Yorks.**—Erection of traditional houses on the Moorhead estate, Gildersome, as follows, for B.C.: Contract 5—48 houses (three blocks of four and 18 blocks of two); contract 6—30 houses (15 blocks of two). Documents from the Borough Engineer's Office, Town Hall, Morley. Deposit £2 2s. Tenders by March 14.

**Nantwich, Ches.**—Pile and beam foundation work to eight bungalows at Wistaston, for R.D.C. The work comprises 60 piles, depth 10ft. to 15ft., together with the necessary reinforced caps and beams to foundations. Documents from the Engineer and Surveyor, Council Offices, Stapeley House, near Nantwich. Deposit £1 ls. Tenders by March 26.

**Neath, Glam.**—Eight houses and four flats at Blaenafon farm site, Tonmawr, near Port Talbot, for R.D.C. Documents from the Office of the Engineer and Surveyor, Council Offices, 18 Orchard Street, Neath. Deposit £3 3s. Tenders by March 8.

**Neston, Ches.**—Fifty dwellings on the Clayhill housing estate, Liverpool Road, Neston, for U.D.C. Documents from the office of S. Colwyn Foulkes, architect, Merton Place, Pwllcrochan Avenue, Colwyn Bay, North Wales. Plans also seen at the office of the Engineer and Surveyor, Town Hall, Neston, Wirral. Tenders by March 16.

**Newburgh, Fife.**—Twelve houses in one block at Hill Road/High Street, comprising nine two-apartment and three three-apartment, for B.C. Demolition, site clearance, roads and sewers, mason and brick works, carpenter and joiner works, plumber, plaster and cement works, roof tile and roughcast, glazier, electrical, painter and grates. Applications to L. A. Rolland, architects and quantity sur-

veyors, The Albion House, Leven, by Feb. 29. The conditions of contract include that the tenders are to be on a fixed basis both as regards labour and materials and that all contractors must allow time off to their apprentices to attend day release classes.

**Southwell, Notts.**—Twelve bungalows off Mansfield Road, Clipstone, together with appurtenant siteworks, for R.D.C. Documents from M. England, architect and surveyor, 7 Westgate, Southwell. Deposit £2 2s. Tenders by March 14.

**\*Stroud, Glos.**—Housing etc., on the Lower Farmhill site, Paganhill, for U.D.C. Deposit £5 5s. Tenders by April 2.

**Swindon, Wilts.**—Borough Council propose to undertake a large traditional housebuilding programme during the next two years and would welcome inquiries from firms prepared to build about 400 dwellings during this period on large sites within the town. There is a strong probability of further continuity. Firms having the necessary resources, especially so far as manpower is concerned (it may be necessary to import large numbers of building labour) are requested to get in touch with D. Murray John, town clerk, Civic Offices, Swindon.

**Towyn, Merioneths.**—Two flats on site in Towyn, for U.D.C. Documents from Engineer and Surveyor, Council Offices, Towyn Merioneth. Deposit £2 2s. Tenders by March 31.

**\*Wandsworth.**—Housing at Clapham, for B.C. Apply by March 9.

**Wells-next-the-Sea, Norfolk.**—Twenty two-bedroom bungalows and 28 lock-up garages at Church Marsh, for U.D.C. Documents from W. A. J. Spear, architect, 36 Cattle Market Street, Norwich. Deposit £2 2s. Tenders by March 28.

**West Lothian.**—Following trades in respect of eight two-apartment houses to be erected at East Main Street, Uphall, for C.C.: (1) Excavator, brick, etc., work; (2) carpenter and joiner works; (3) slater and roughcast works; (4) plaster and cement works; (5) glazier work; (6) plumber work; (7) electrical work; and (8) painter work. Applications to John Calder, county clerk, County Buildings, Linlithgow, by Feb. 27.

**Winsford, Ches.**—Forty-two dwellings (bungalows and flats) and five garages, at Dene estate, for U.D.C. Documents from Engineer and Surveyor, Over Hall, Winsford. Tenders by March 14.

#### MATERIALS AND SUPPLIES

**Adwick-le-Street, Yorks.**—Supply of the following road materials and the application of tar, required for the maintenance of highways during the year ending March 31, 1961, for U.D.C.: Tared steel slag; steel slag chippings; refined tar to road board specification; proprietary preparations; cold emulsions; ½ in. bituminous slag; mechanical application of tar for proprietary preparations for surface dressing. Details from W. S. Ellis, engineer and surveyor, Council Offices, Adwick-le-Street, near Doncaster.

**Airdrie, Lanarks.**—Supply of the following materials required during the year ending May 15, 1961, for B.C.: (a) Dry whinstone metal; (b) dry whinstone chips; (c) dry steel slag chips; (d) blast furnace slag chips; (e) tared whinstone metal; (f) tared whinstone chips; (g) tared steel slag; (h) tared steel slag chips; (i) bituminous surface spraying compounds. Offers are also invited for the provision of surplus motor haulage for the same period. Documents from H. Shaw, burgh engineer and surveyor, Royal Buildings, Airdrie. Tenders by March 18.

**Bedwellty, Glam.**—Supply of the following during the year ending March 31, 1961, for U.D.C.: (1) Tared macadam; (2) bitumastic macadam; (3) dry stone chippings; (4) liquid road dressings; (5) horse haulage (Sirhowy Valley). Documents from the Engineer and Surveyor, Municipal Offices, Aberbargoed, Bargoed. Tenders by March 1.

**\*Brownhills, Staffs.**—Supply of materials (housing capital), for U.D.C. Tenders by March 18.

**\*Brownhills, Staffs.**—Supply of road materials, for U.D.C. Tenders by March 18.

**Camberwell.**—Supply of concrete manhole sections, for B.C. Documents from Borough Engineer and Surveyor, Town Hall, Camberwell, S.E.5. Tenders by March 5.

**Cannock, Staffs.**—Supply of the following materials for the period ending March 31, 1961, for U.D.C.: (1) Cold asphalt; (2) bituminous macadam; (3) tarmacadam; (4) refined tar/bitumen compound; (5) gravel; (6) building and concrete sand; (7) hydraulically pressed concrete kerbs and channel blocks; (8) road salt; (9) chippings for tarspraying; (10) tools and ironmongery; (11) premixed waterbound macadam; (12) stores and drysalteries; (13) protective clothing; (14) cast-

ings; (15) cement; (16) bricks; (17) concrete pipes and gullies; (18) stoneware pipes and gullies. Documents from the Engineer and Surveyor, Council House, The Green, Cannock. Tenders are also invited for the supply of petrol, oils and greases. Documents from the Cleansing and Transport Superintendent, Council Offices, Church Street, Cannock. All applications must be accompanied by stamped addressed foolscap envelopes. Tenders by March 14.

**Carlisle.**—Seven thousand five hundred 1½ cu. ft. dustbins, for City Council. Documents from Cleansing Depot, Bousteads Grassing. Tenders by March 11.

**\*Chester.**—Supply of materials, for City Council. Tenders by March 3.

**Coseley, Staffs.**—Supply of the following materials during the year ending March 31, 1961, for U.D.C.: (a) Road materials and road signs; (b) tools, plant and protective clothing; (c) building materials; (d) cast-iron and rainwater goods, dustbins and tubular lineposts; (e) paint and decorating materials; (f) plumbing materials; (g) ironmongery and hardware; (h) disinfectants and soaps; (i) motor oils and tyres. Documents from J. C. Roper, clerk, Council House, Coseley, on receipt of a stamped addressed envelope. Firms should state items required. Tenders by March 4.

**Dudley, Worcs.**—Supply of any or all of the following items, for B.C.: One hundred and forty-four pairs men's boiler suits, 34 in. to 50 in.; 12 men's dust coats (grey); 108 pairs men's industrial gloves (refuse collectors); six women's overalls (button front and belt); 18 kersey jackets (leather reinforced shoulders and elbows); 24 pairs women's light industrial gloves. Samples, if submitted, should be sent to the Chief Public Health Inspector, Public Health Department, The Council House. Quotations, in plain envelopes bearing in the top left hand corner particulars of items tendered for, to P. D. Wadsworth, town clerk, The Council House, Dudley, by March 26.

**Dukinfield, Ches.**—Supply and delivery of the undermentioned goods and materials for the year ending March 31, 1961, for B.C.: (1) Concrete flags, kerbs channels and edging; (2) cement; (3) chippings, limestone, granite and basalt; (4) bituminous macadam; (5) tar-bitumen compound for hot surfacing dressing; (6) filled bitumen; (7) stoneware pipes and land drain pipes; (8) gully grids and manhole covers; (9) sand; (10) bricks; (11) 1½ in. clean and 1½ in. down broken stone. Documents from the Borough Engineer and Surveyor, Town Hall, Dukinfield. Tenders by March 14.

**\*Durham.**—Supply of various items, for C.C. Tenders by March 4.

**East Suffolk.**—Supply of furniture for Capel St. Mary New Primary School, extensions to Eyke and Stoke Ash Primary Schools, and new housecraft room at Framlingham Mills Grammar School, for C.C. Documents from the Chief Education Officer, Education Office, Rope Walk, Ipswich. Tenders by March 7.

**Heanor, Derbys.**—Supply of the following for the 12 months ending March 31, 1961, for U.D.C.: Tared and bituminous limestone; tared and bituminous granite; concrete kerbs; cold asphalt; precast chippings (granite, limestone, gravel and slag); sand and cement. Documents from I. H. Garside, engineer, Council Offices, Heanor. Tenders by March 12.

**Kilmarnock, Ayr.**—Supply of the following in such quantities as may be required during the year from May 16, 1960, to May 15, 1961, for B.C.: (1) for all Corporation departments, electric lamps; (2) for the roads and bridges and other departments, plant, implements, tools, and miscellaneous articles. Documents from the Burgh Surveyor's Office, 11 London Road, Kilmarnock. Tenders by March 9.

**Manchester.**—Supply of stainless-steel-topped tables to the Domestic and Trades College, Fallowfield, for City Council. Documents from City Architect, P.O. Box 488, Town Hall, Manchester. Tenders by March 9.

**Manchester.**—Supply of approx. 2,000 tons of natural self-coloured red igneous rock chippings during the period April 1, 1960, to March 31, 1961, for City Council. Documents from the City Surveyor, Town Hall, Manchester, 3. Tenders by March 2.

**Nairn.**—Supply of 73 wrought-iron gates for gate openings each 3 ft. 4 in. between pillars and 2 ft. 9 in. from ground level to underside of pier coping together with strong wrought-iron gate hangers and stops for concrete block pillars, for Queenspark housing site, for B.C. A date for delivery must accompany each offer. One gate of each type specified in any offer must be deposited with J. Webster, burgh surveyor, Viewfield, King Street, Nairn, on or before the final date for lodging offers. The lowest or any offer may not be accepted by the Town Council. Offers under sealed cover, marked Gates—Queenspark Housing Site, to be lodged with Geo. S. Storm, town clerk, 19 High Street, Nairn, by noon, March 5.

**Northern Ireland.**—Supply of cement to various drainage sites throughout Northern Ireland during the period April 1, 1960, to March 31, 1961, for the Ministry of Agriculture. Documents from the Ministry of Agriculture, Drainage Division, 9 Upper Queen Street, Belfast, 1. Tenders by March 7.

**Oakengates, Salop.**—Supply and delivery or execution of the following for year commencing April 1, 1960, for U.D.C.: Precast concrete kerbs and flags; tared and bituminous macadam; broken stone or slag and chippings; washed crushed gravel; washed sand; hire of road rollers; manhole covers and frames; gully grates and frames. Documents from the Engineer and Surveyor, Council Chambers, Oakengates. Tenders by March 9.

**Orrell, Lancs.**—Supply and delivery of the undermentioned items for the year ending March 31, 1961, for U.D.C.: (1) Screened granite chippings; (2) broken stone; (3) concrete kerbs; (4) concrete channels (bullnosed); (5) 2½ in. granite concrete flags; (6) cold asphalt; (7) tared limestone; (8) bituminous limestone toppings; (9) bituminous granite; (10) dustbins. Documents from the Engineer and Surveyor for items (1) to (9), and from the Public Health Inspector for item (10), Council Offices, Orrell Post, Wigan, on receipt of a stamped addressed envelope. Tenders by March 14.

**Peterborough.**—Supply of fuel oil to the Isolation Hospital, and The Gables Maternity Hospital, for the 12 months commencing May 1, 1960, for Peterborough and Stamford Hospital Management Committee. Documents from H. F. Donald, group secretary, Memorial Hospital, Midland Road, Peterborough. Tenders by March 14.

**Pudsey, Yorks.**—Supply of the following materials for the year ending March 31, 1961, for B.C.: York stone flags and kerbs; concrete flags and kerbs; bituminised and tared limestone; granite chippings; bitumen spraying compound applied direct on roads; sand and gravel; Portland cement; scavenger brooms. Documents from the Borough Surveyor, Town Hall, Pudsey, on receipt of a s.a.c. Tenders by March 5.

**Rishton, Lancs.**—Supply of the following during the year ending March 31, 1961, for U.D.C.: Sett grouting materials; spraying compounds; pitching stone; screened chippings; sand; precast concrete flags and kerbs; tared and bituminous macadam and fine cold asphalt; pipes, gully pans, etc., in glazed stoneware and concrete; manhole covers, gully grates and frames. Applications to the Surveyor, Council Offices, Rishton, near Blackburn, enclosing a stamped addressed foolscap envelope. Tenders by March 12.

**Rothwell, Yorks.**—Execution of certain highway works or the supply of materials listed below for the financial year ending March 31, 1961, for U.D.C.: (1) Heating and planing, tared slag and dense tar (including laying by machine); (2) refined tar and bituminous preparations for surface dressing; (3) granite chippings, sand, gravel, building sand, slag/gravel/salt for winter gritting, pitching stone, crusher run steel slag and limestone; (4) cold asphalt for carriageways and footpath surfaces, including laying by machine on carriageways; (5) concrete kerbs, channel blocks and edging; (6) highway tools and Portland cement; (7) manhole covers and frames, gully grates and frames; (8) coke; (9) earthenware pipes; (10) gas lighting fittings and mantles; (11) electric lighting lamps, sodium and tungsten leak transformers, capacitors and t.r.s. cable. Documents from the Engineer and Surveyor, Civic Buildings, Rothwell, near Leeds. Tenders by March 1.

**Saddleworth, Lancs.**—Supply of the undermentioned materials for the year ending March 31, 1961: Bituminous granite or basalt macadam; tared limestone macadam; granite or basalt chippings; limestone chippings; fine cold asphalt; broken grit stone; washed river or quarry sand; refined tar; cement. Documents from the Surveyor to the Council, Council Offices, St. Chad's, Uppermill, near Oldham. Tenders by March 12.

**Slough, Bucks.**—Supply of 2½ and 3½ cu. ft. B.S.S. taper type dustbins, for B.C. Documents from Borough Engineer, Town Hall, Slough. Tenders by March 7.

**Swinton and Pendlebury, Lancs.**—Supply of the following materials during the period May 1, 1960, to April 30, 1961, for B.C.: (1) Bituminous macadam; (2) 1½ in. and ¾ in. broken stone; (3) clean coarse sand; (4) precast concrete kerbs (hydraulically pressed); (5) 2 in. and 2½ in. thick concrete flags; (6) manhole covers and gully grates; (7) stoneware or earthenware pipes and gullies, etc. Documents from the Borough Engineer and Surveyor, Town Hall, Swinton. Tenders by March 5.

**Tottington, Lancs.**—Supplies during the period ending March 31, 1961, of the following, for U.D.C.: Limestone chippings; granite chippings; tarmacadam; bituminous macadam; bituminous emulsion; concrete kerb, channel and flags; stone kerb channel and edging;



broken stone and pitching; sand and gravel; glazed stoneware, pipes and street gullies, cement. Documents from the Engineer and Surveyor, Town Hall, Tottington, near Bury. Tenders by March 14.

#### PLANT AND MECHANICAL TRANSPORT

**Birkenhead, Ches.**—Supply of refuse collection vehicles, gully emptier and mechanical excavator, for B.C. Documents from Cleansing Superintendent, Central Depot, Cleveland Street, Birkenhead. Tenders by March 4.

**Camberwell.**—Supplying the following, for B.C.: (a) Six house refuse collection vehicles (Seddon chassis with Eagle Compressor body); (b) one 6-ton long wheelbase dropside truck; (c) one 2 1/2-ton low-load tipping truck; (d) one 800-gallon combined gully emptier and street washing machine; (e) one Ferguson 35 tractor and 30cwt. tipping trailer 704; (f) one road-burning machine, 4ft. by 2ft. hood; (g) one vibrating trench compactor; (h) one Peggson 3in. diaphragm pump; (i) four Rapier rotary mowers; (j) three Sexton rotary mowers; (k) two 30in. Ransomes cutting units for triple gang mower, complete with drawbar attachment. Documents from the Borough Engineer and Surveyor, Town Hall, S.E.5. Tenders by March 2.

**East Suffolk.**—Supply to the Education Committee's Central Store in Ipswich of up to six Ransomes 30in. Mastiff motor mowers and up to four Ransomes 24in. Matador motor mowers, for C.C. Documents from the Chief Education Officer, Education Office, Rope Walk, Ipswich. Tenders by March 4.

**Edinburgh.**—Supply of a sand washing and dewatering plant capable of handling 20 tons of filter sand per hour, for City Council. Specification from the City Water Engineer, 6 Cockburn Street, Edinburgh, 1. Tenders by March 24.

**Esher, Surrey.**—Supply of all or any of the following items, for U.D.C.: Two new Massey-Ferguson 35 de luxe diesel industrial tractors; two Sta-dri (or similar make) cabs, complete with electric windscreen wipers; one Massey-Ferguson 3-ton semi-mounted tipping trailer; one Ransomes 30in. verge cutter motor mower. The successful tenderer for the tractors will be required to take in part exchange a 1953 Ferguson diesel agricultural tractor, which can be inspected by appointment at the Sewage Disposal Works, Farm Road, Esher. Documents from the Engineer and Surveyor, Council Offices, Esher. Tenders by March 4.

**Glasgow.**—Supply of a number of mechanical vehicles, for City Council, comprising refuse collectors, sweeper collectors, gully emptiers, pedestrian controlled trucks, general purpose vehicles, and private cars. Documents from the Director of Cleansing, 235 George Street, Glasgow, C.1. Tenders by March 7.

**Gravesend, Kent.**—Supply of (a) Ford Thames 15cwt. truck, and (b) 24in. Dennis motor mower, in part exchange for existing machines, for B.C. Documents from the Borough Engineer and Surveyor, 6 Woodville Terrace, Gravesend, on receipt of stamped addressed envelope. Tenders by March 9.

**Halifax, Yorks.**—Supply of the following, for B.C.: One 15cwt. capacity four-wheel diesel dumper; one four-wheel hand-operated cold emulsion sprayer; one 3cwt. hand roller; one 5cwt. hand roller. Suppliers are asked to note that forms of tender and specifications are not issued. Tenders, accompanied by detailed specifications of the plant offered, in envelopes endorsed "Plant," to the Town Clerk, Town Hall, Halifax, by March 1.

**Ormskirk, Lancs.**—Following plant, for U.D.C.: (a) 12 to 14cwt. footpath roller; (b) mechanical trench rammer. Particulars and prices to G. Williams, clerk of the Council, Council Offices, Burscough Street, Ormskirk, by March 4.

**Pudsey, Yorks.**—Supply and delivery of a tractor and ancillary equipment for use in the Parks Department, for B.C. Details from the Parks Superintendent, The Park, Pudsey. Tenders by March 5.

#### PLAYING FIELDS, PARKS, ETC.

**\*Basingstoke, Hants.**—St. Peter's Road district footpaths and landscaping, for B.C. Deposit £2 2s. Tenders by March 14.

**Cheshire.**—Layout schemes involving excavation, levelling, drainage and general preparation at the following sites (acreages are approximate), for C.C.: Cheadle County Grammar Girls' (one shale type pitch), 1.25 acres; Timperley Broomwood County Primary (playing field only), 2.05 acres; Crews County Grammar Boys' (drainage), nine acres; Nantwich and Acton County Grammar (playing field only), 6.2 acres; Cheadle Hulme Queens Road County Primary (playing field only), 3.5 acres; Wilmslow Lacey Green County Primary (drainage), 2.5 acres. No mainten-

ance periods are included in these contracts. Documents from John G. Kellett, director of education, County Hall, Chester. Deposit £3 3s. each project. Tenders by March 14.

**Merionethshire.**—Forming a playing field and asphalt surfacing at the Primary School, Barmouth, for C.C. Documents from the County Architect, County Offices, Lombard Street, Delgellau. Deposit £2 2s. Tenders by March 7.

**\*Rowley Regis, Staffs.**—Proposed playing fields, Tividale Park, for B.C. Deposit £2 2s. Tenders by March 7.

#### RIVER AND FLOOD PREVENTION WORKS

**Buckinghamshire.**—Following improvement works to be carried out during the financial year 1960-61, for the Great Ouse River Board: (1) Gauging weir and bridges, Willen, near Newport Pagnell—works include 2,160 cu. yd. excavation, 4,000 cu. yd. fill, 6,250 cu. ft. reinforced concrete and 980 sq. yd. roadworks; (2) dredging of River Ouzel, near Newport Pagnell—works include 11,260 cu. yd. excavation, 6,900 cu. yd. fill and 17,800 sq. yd. spoil treatment. Documents for one or both of these works from the Engineer of the Board, Elmhurst, Brooklands Avenue, Cambridge. Deposit £5 5s. per set (cheques payable to the Board). Tenders by March 7.

**\*Bungay, Suffolk.**—River Waveney—electrically operated sluice gate, for East Suffolk and Norfolk River Board. Deposit £3 3s. Tenders by April 6.

**\*Norfolk.**—Extension of western training wall, for Great Ouse River Board. Deposit £5 5s. Tenders by April 8.

#### ROADS, BRIDGES AND SITE WORKS

**Alderley Edge, Ches.**—London Road, A.34, improvement from junction with Heyes Lane to junction with Stevens Street, for U.D.C., consisting of excavation and foundations to additional width of carriageway; precast concrete kerbing (approximately 404 lin. yd.); reshaping carriageway with bituminous macadam and surfacing with cold asphalt area (approximately 2,500 sq. yd.); reshaping and surfacing footways with coated macadam area (approximately 1,360 sq. yd.), together with drainage and ancillary works. Documents from the Surveyor, Council Offices, Alderley Edge. Deposit £2 2s. Tenders by March 18.

**Armada, West Lothian.**—Demolition, roads and sewers in site preparation for 155 houses at Bevan site, Armada, for B.C. Applications to Town Clerk, 4 South Street, Armada, by Feb. 27.

**Aylesbury, Bucks.**—Provision of road and sewers on the housing estate at Stone, comprising road about 230ft. in length, storm water and soil sewers, verges, etc., for R.D.C. Documents from Raymond C. White, of Raymond White and Ridley, chartered architects, 4 Temple Square, Aylesbury. Deposit £2 2s., payable to R.D.C. Tenders by March 15.

**Barnes, Surrey.**—Reconstruction of part of Castelnau A.306, contract five, for B.C., including the construction of approx. 3,600 sq. yd. of 11in. thick reinforced carriageway and surfacing with 2in. single course hot-rolled asphalt and ancillary kerbing, channel and paving works. Documents from W. R. Shepherd, borough engineer and surveyor, Municipal Office, Sheen Lane, S.W.14. Tenders by March 18.

**Bath, Som.**—Reconstruction and widening of approximately 170 lin. yd. of Lansdown Lane, for City Council. The following works are included: Laying of 180 lin. yd. 27in. and 24in. precast concrete pipe; erection of concrete retaining wall 8ft. high, approximately 180ft. in length; construction of 1,265 sq. yd. of carriageway; construction of one high-level and one low-level footpath, combined area 770 sq. yd. Documents from the City and Waterworks Engineer, Guildhall, Bath. Deposit £2 2s. Tenders by March 10.

**\*Bedford.**—Construction of footpaths and verges and surfacing of carriageways, contract 7, for B.C. Apply by Feb. 29. Tenders by March 11.

**\*Berkshire.**—Making-up Erleigh Court Drive, Earley, for C.C. Deposit £2. Tenders by March 11.

**\*Buckinghamshire.**—Making-up Almond Road, Burnham, for C.C. Deposit £2. Tenders by March 7.

**Burnley, Lancs.**—Making-up in pitching and bitumen macadam of the following streets, for B.C.: (1) Fir Grove Road (length 66 lin. yd.); (2) Athletic Street (length 131 lin. yd.); (3) Irene Street (length 41 lin. yd.). Documents from the Borough Engineer and Surveyor, 22-24 Nicholas Street, Burnley. Deposit £1 1s. Tenders by March 4.

**Bury St. Edmunds, Suffolk.**—Supply of approximately 1,000 tons of base course gravel asphalt and for the supply and laying by mechanical spreader of approximately 8,000 sq. yd. wearing course gravel asphalt, for

B.C. Documents from G. S. Standley, borough engineer and surveyor, Borough Offices, Bury St. Edmunds. Tenders by March 9.

**\*Cardiff.**—Llangdeyrn Road improvement, for City Council. Deposit £2 2s. Tenders by March 14.

**\*Cardiff.**—Trial borings and soil reports, 1960-61, for City Council. Deposit £2 2s. Tenders by March 11.

**Cardiff.**—Construction of a trolley bus turning space in Whitchurch Road and comprising roadworks, drainage, accommodation works, demolition, etc., for City Council. Documents from the City Surveyor, City Hall, Cardiff. Deposit £2 2s. (cheques payable to Corporation). Tenders by March 14.

**Chard, Som.**—Touchstone Lane improvement scheme, for B.C., including the following works (approximately): 290 lin. yd. hedge removal; 1,000 cu. yd. excavating over area; 1,100 super. yd. prepare and shape carriageway; 1,100 super. yd. clinker 3in. thickness; 1,100 super. yd. granular base 12in. thickness; 1,000 super. yd. scarifying surface; 2,100 super. yd. two-coat tarmacadam; 2,100 super. yd. hot bitumen dressing; 600 super. yd. 18in. stone walls, together with concrete foundations; 850 super. yd. single-course tarmacadam to footpaths; 400 lin. yd. 6in. surface water sewers; 12 gullies; four manholes and other incidental works. Documents from the Borough Surveyor, Municipal Offices, High Street, Chard. Deposit £10 10s. Tenders by March 14.

**Cheadle, Staffs.**—Construction of new street works and sewers at Bridgewood Road, Blythe Mount housing site, Blythe Bridge, for R.D.C. The works comprise the construction of approximately 3,000 super. yd. of carriageway and footpaths and 650yd. of 6in. and 9in. sewers. Documents from the Engineer and Surveyor, Council Offices, Leek Road, Cheadle. Deposit £2. Tenders by March 9.

**Chester.**—Making-up of Dicksons Drive (part only), approximately 90 lin. yd., and also for Broadway East (part only) and Broadway West (part only), approximately 210 lin. yd., for City Council. The work comprises carriageway foundations (part), surfacing and drainage, and the making-up of the footways and verges. Documents from the City Engineer and Surveyor, 49 Northgate Street, Chester. Tenders by March 5.

**Coventry.**—Resurfacing roads with total area approximately 12,500 sq. yd. and incidental works, for City Council. Documents from City Engineer, Council House, Coventry. Deposit £5. Tenders by March 4.

**Cumbernauld, Lanarks.**—Carbain one and two site servicing, including Carbain Road, for Development Corporation, comprising approx. 28,000 sq. yd. of main and estate roads, 8,000 sq. yd. of settled hardstanding, 5,000 lin. yd. of foul and surface water sewers (6in. to 21in. dia.), and four Armo corrugated metal underpasses with reinforced concrete approach works. Applications to the Chief Architect and Planning Officer, Cumbernauld Development Corporation, Cumbernauld House, Cumbernauld, Glasgow, by Feb. 29.

**Dartford, Kent.**—Kerb-laying and resurfacing of roads (contract 198), for West Kent main Sewerage Board. The work comprises 6,000 sq. yd. of tarmacadam surfacing; 2,500 lin. yd. of precast concrete kerbing; 700 sq. yd. of concrete paving and surface water drainage, at the Sewage Purification Works, Long Reach, Dartford. Documents from A. J. W. Jeffery, secretary of the Board, 20 Blyth Road, Bromley, Kent. Tenders by March 4.

**East Lothian.**—Asphalt surfacing, A.1 Trunk Road, Burgh of Tranent, for C.C. Documents from the County Surveyor, County Buildings, Haddington. Tenders by March 7.

**East Riding.**—Repairs to Elland Grammar School playground area and paths, for C.C. Documents from the Acting Clerk to the Governors, Education Office, Brighouse. Tenders by March 1.

**East Riding.**—Improvement of a length of approximately 600yd. of the Liverpool-Leeds-Hull trunk road, A.63, west of Gillerdyke railway bridge, for C.C. The works include the provision and consolidation of filling, drainage, kerbing, and carriageway construction. Documents from the County Surveyor, County Hall, Beverley. Deposit £2 (cheques payable to Council). Drawings seen at the trunk roads office of the County Surveyor, Westminster Bank Chambers, Lairgate, Beverley. Tenders by March 14.

**\*Eccles, Lancs.**—Surface dressing, for B.C. Tenders by March 14.

**Farnham, Surrey.**—Construction of Victoria Road car park (phase 2) the approximate quantities as follows, for U.D.C.: (a) Demolition of existing buildings; (b) 3,000 cu. yd. excavation; (c) 5,000 super. yd. hardcore foundations; (d) 6,000 super. yd. bituminous macadam surfacing; (e) ancillary drainage works. Documents from Geoffrey Poole, engineer and surveyor, Council Offices, South



Street, Farnham. Deposit £2 2s. Tenders by March 8.

**Fifehire.**—Reconstruction and widening of Lochty Bridge at Thornton (Kirkcaldy/Cupar road), for C.C. The new deck will consist of rolled steel joists encased in concrete, and the abutments will be of mass concrete. The contract will include the realignment and regrading of the existing approach roads. Documents from the County Surveyor, County Offices, Belfield, Cupar. Deposit £2 2s. Tenders by March 18.

**Greenock, Renfrews.**—Widening and reconstruction of section A.8 from Knowe Road to Ratho Street as a dual carriageway, for B.C. Contract 1 comprises the erection of several buildings and accommodation works, excavation, the construction of approx. 6,400 sq. yd. of road foundations; 4,000 sq. yd. of footpaths; 2,000 lin. yd. of kerbing; reinforced concrete and mass concrete retaining walls and ancillary works; contract 2 comprises the supplying and laying of approx. 8,600 sq. yd. of bitumen macadam and hot rolled asphalt base courses and 8,600 sq. yd. of hot rolled asphalt wearing course on carriageways, and approx. 4,500 sq. yd. of bitumen macadam base course and hot rolled asphalt wearing course on footways. Applications to the Master of Works, Municipal Buildings, Greenock, by March 14.

**Hambleton, Surrey.**—Reconstruction of housing estate roads at Lordshill, Shamley Green, Homefield Cottages, Thursley, Green Lane, Churt, for R.D.C. Documents from Messenger, Morgan and May, 8 Quarry Street, Guildford. Deposit £2 2s. Tenders by March 21.

**Hoddesdon, Herts.**—Construction of road—Rye Road industrial site, contract 100, for U.D.C. Tenders by March 14.

**Huddersfield, Yorks.**—Making-up of Sunningdale Road, Crosland Moor, for B.C. Documents from A. L. Percy, borough engineer and surveyor, High Street Buildings, Huddersfield. Deposit £1 1s. Tenders by March 5.

**King's Lynn, Norfolk.**—Construction of approx. 4,615 sq. yd. of carriageways, laying 1,140 lin. yd. of sewers and 719 lin. yd. of water mains, together with ancillary works, at Hardwick Road trading estate, for B.C. Documents from the Borough Engineer, Clifton House, 17 Queen Street, King's Lynn. Deposit £2 2s. Tenders by March 8.

**Lancashire.**—Supply and laying of macadam playground at the Swinton and Pendlebury Cromwell Road Boys' Secondary School, for C.C. Applications to the County Architect, P.O. Box 26, County Hall, Preston, by 10.30 a.m. Feb. 29.

**Lanarkshire.**—Surfacing of a portion of the Glasgow-Stirling trunk road reconstruction scheme between Stepps and Dunbarton County Boundary, for C.C. Works will comprise a bitumen macadam regulating course, where required over an area of approximately 105,000 sq. yd., approximately 26,500 sq. yd. of a hot rolled asphalt base course, and a hot rolled asphalt wearing surface over the total area of 131,500 sq. yd. Applications to the County Surveyor, 19 Auchingramont Road, Hamilton, Lanarkshire, by March 4. Deposit £10.

**Lisburn, Antrim.**—Widening, realignment and reconstruction of a portion of Warren Gardens (Longstone Lane), for U.D.C., including the provision of a water main, a foul sewer, a surface water drain and other incidental works. The length of the section concerned is approx. 450 lin. yd. and the width of the new carriageway will be 22ft. with 7ft. footpaths. Documents from the Town Surveyor, Town Hall, Lisburn. Deposit £3 3s. Tenders by March 1.

**Luton, Beds.**—Construction of paved footways, etc., at Lewsey Farm estate, for B.C. Deposit £2 2s. Tenders by March 4.

**Maldon, Essex.**—Reconstruction at Hall Road, Heybridge, for B.C. Deposit £2 2s. Tenders by March 18.

**Mallaig, Inverness.**—Site works prior to construction of cold store, for Herring Industry Board. Apply within seven days. Deposit £10 10s.

**Manchester.**—Paving and completing of Laindon Road, Victoria Park, approx. 2,300 sq. yd. of bitumen macadam carriageway, 1,800 sq. yd. of asphalt sand carpet, and all ancillary works, for City Council. Documents from the City Surveyor, Town Hall, Manchester, 2. Tenders by March 1.

**Market Harborough, Leics.**—Construction of footpaths and verges on the Farndon Road sector of the Council's estate, for U.D.C. Documents from the Surveyor, Council Offices, Northampton Road, Market Harborough. Tenders by March 7.

**Newbury, Berks.**—Roads and sewers at Turnpike Road housing site, part I, for B.C. Tenders by March 31.

**Newcastle-under-Lyme, Staffs.**—Making-up of Reeves Avenue, for B.C. Tenders by March 11.

**Northampton.**—Construction of approximately 3,450 sq. yd. of concrete carriageway

and approximately 460 lin. yd. foul and surface water sewers, together with kerbs, manholes, gullies and incidental works, to form a new road off Thornton Road, for B.C. Documents from the Borough Engineer, Guildhall, Northampton. Deposit £2 2s. Tenders by March 11.

**Perth and Kinross.**—Reconstruction of about 1½ miles of the Glasgow-Fort William-Inverness trunk road, Crianlarich-Tyndrum section A.82, between Euich and Castlebridge, to provide a 24ft. wide carriageway with 8ft. wide verges on each side, for C.C. Work entails about 140,000 cu. yd. of excavation (including 90,000 cu. yd. from borrow pits), bridgeworks, reinforced concrete box culvert, drainage, fencing, and other ancillary works. Bridgeworks comprise (a) railway overbridge—angle of skew approx. 70 degrees, square span 17ft. 9in. with a composite (R.S.J./concrete) deck on reinforced concrete abutments, the skew ends of the deck being supported on 7ft. deep welded steel plate girders; (b) mass concrete arch bridge 18ft. span. Documents from the County Surveyor, 57 Feus Road, Perth. Deposit £5, cheque payable to the Joint County Council. Tenders by March 17.

**Swinton and Pendlebury, Lancs.**—Making-up of four streets (approx. 300 lin. yd. in all), for B.C. Documents from Borough Engineer, Town Hall, Swinton, Manchester.

**West Sussex.**—Development of Shoreham harbour, for C.C. Construction of approximately 6,000 sq. yd. of reinforced concrete carriageway and 500 lin. yd. of spun-iron foul sewer. Applications to Maurice Milne, county engineer and surveyor, County Hall, Chichester, by first post Feb. 29.

**Wokingham, Berks.**—Construction of a car park in the garden at the rear of Council offices, for R.D.C. The car park has an area of approximately 900 sq. yd. and is to be finished in tarmac. Documents from the Surveyor, Council Offices, Shute End, Wokingham. Tenders by March 14.

#### SEWERAGE, SEWAGE AND REFUSE DISPOSAL

**Barnsley, Yorks.**—Construction of a 65ft. diameter reinforced concrete humus tank and a 30ft. diameter pumping station, together with ancillary works, at Lundwood sewage disposal works, contract Q, for B.C. Documents from the Borough Engineer, Town Hall, Barnsley. Tenders by March 18.

**Basford, Notts.**—Sewerage work, including the following, for R.D.C.: Erection of automatic electric sewage pumping station with underground sump and pump room; conversion of existing tanks into storm water tanks; supplying and laying of 4in. spun-iron pumping main, involving river and canal crossings; supplying and laying of 9in. and 6in. iron and concrete pipe sewers, with manholes, etc., involving crossing under main railway tracks. Documents from Eric Kirk, joint engineer and surveyor, Rock House, Stockhill Lane, Basford, Nottingham. Deposit £5 5s. (cheque only). Tenders by March 8.

**Berkhamsted, Herts.**—Construction of approximately 14½ yd. of 9in. diameter storm-water sewer, together with incidental works, at The Park estate, for U.D.C. Documents from the Engineer and Surveyor, Civic Centre, Berkhamsted. Deposit £2 2s. Tenders by March 9.

**Bingham, Notts.**—Sewer extension, Dark Lane, for R.D.C., comprising construction of approximately 87yd. of 6in. diameter concrete sewer and ancillary works. Documents from I. R. Clifton, surveyor, County Offices, Bingham, Nottingham. Deposit £2. Tenders by March 2.

**Blackburn, Lancs.**—Samesbury sewage works, contract 1, for B.C. Deposit £10 10s. Tenders by March 4.

**Bristol.**—Main foul drainage scheme, for City Council. Manufacturers suitably experienced in the supply of: (a) Curved bar sewage screens, approx. 9ft. by 11ft., together with automatic raking gear and pumps for flushing water; (b) hand and automatically operated penstocks of 60in., 42in. and 36in. square opening and 12in. and 9in. diameters; (c) comminutors to deal with a sewage flow of 20m. gallons/day for each unit; (d) electrically operated 10-ton overhead crane and hand-operated 5-ton overhead crane; (e) metering equipment for incoming and outgoing sewage flows, sewer and sump level indicators, transmission and recording equipment are invited to apply for inclusion in a selected list of firms who will be invited to tender for the supply and erection of the above equipment. Applications, together with supporting evidence of similar experience, to City Engineer and Planning Officer, Cabot House, Deanery Road, Bristol, 1, by March 7.

**Carmarthen.**—Bronwydd Road sewerage scheme, for B.C. Deposit £5 5s. Tenders by March 28.

**\*Colchester, Essex.**—Construction of sewers, Greenstead Estate—stage II, for B.C. Deposit £2. Tenders by March 11.

**Dundee.**—Construction of approximately 250yd. of 72in. diameter concrete tube sewer and ancillary works in the harbour area at approximately low water level, for City Council. Documents from the office of the City Engineer, 21 City Square, Dundee. Deposit £5. Tenders by March 5.

**Exeter.**—Construction of surface water sewers within the Longbrook drainage area, for City Council, comprising the supply, laying and jointing of approximately 3,000yd. of concrete Ugee tubes varying from 18in. to 36in. in diameter; approximately 6,700yd. of spigot and socket concrete pipes varying from 9in. to 15in. in diameter, and approximately 3,600yd. of 6in. and 7in. diameter salt-glazed stoneware pipes. The contract includes the construction of manholes, special manholes, and other ancillary work. Approximately 340yd. of the 36in. diameter tubes will be constructed in tunnel. Documents from John Brierley, city engineer and surveyor, Municipal Offices, 7 Southernhay West, Exeter. Deposit £5 5s. Tenderers may obtain relative copies of the plans upon receipt of £3 3s., which is non-returnable. Tenders by March 16.

**Gillingham, Kent.**—Construction of a combined sewer in Berengrave Lane, Rainham, for B.C. The work comprises excavating for, providing and laying approximately, 230 lin. yd. of 12in. glazed stoneware pipes; 50 lin. yd. of 15in. s. and s.; 80 lin. yd. of 18in. concrete pipes; 260 lin. yd. of 21in. concrete pipes; 60 lin. yd. of 33in. concrete pipes, also pre-cast concrete and brick manholes and other ancillary works. Applications to the Borough Engineer, Municipal Buildings, Gillingham. Deposit £2 2s. (cheque). Tenders by March 11.

**Havant and Waterloo, Hants.**—Cowplain surface water drainage scheme, for U.D.C., comprising the construction of approximately 32 lin. yd. of 9in. diameter; 30 lin. yd. of 12in. diameter; 217 lin. yd. of 27in. diameter; and 71 lin. yd. of 30in. diameter surface water sewers, and ancillary works connected therewith. Documents from the Engineer and Surveyor, 1 Park Road North, Havant. Tenders by March 17.

**\*Haverfordwest, Pems.**—Herbrandston sewage works extension, for R.D.C. Tenders by March 18.

**Inverkeithing, Fife.**—Construction of a pumping station, sewers, pumping main and ancillary works in the Roods and Boreland Road areas, for B.C. The sewers will comprise 123yd. of 12in.; 495yd. of 15in.; 84yd. of 18in. diameter reinforced concrete pipes; 27yd. of 7in.; 19½yd. of 15in. and 185yd. of 18in. diameter spun-iron pipes. The pumping main will comprise about 482yd. of 7in. diameter spun-iron pipes. The pumping station will comprise wet sump, dry sump to contain three pumps, and builder work. Ancillary works will include the construction of manholes and storm overflows. Applications to Babbie, Shaw and Morton, consulting engineers, 17 Blythswood Square, Glasgow, C.2, by Feb. 29.

**\*Kerrier, Corn.**—Sewerage and sewage disposal schemes, for R.D.C. Deposit £5 5s. each. Tenders by March 28.

**Kilmarnock, Ayr.**—Construction of a relief sewer and storm water overflow in Loreny Drive, for B.C., including the laying of approximately 350 lin. yd. of 24in. and 33in. concrete pipes and the construction of manholes and an overflow chamber. Applications to W. N. McCall, burgh surveyor, 11 London Road, Kilmarnock.

**\*Luton, Beds.**—Tilsworth main drainage, for R.D.C. Deposit £2 2s. Tenders by March 26.

**Macclesfield, Ches.**—Construction of a small sewage disposal works and other ancillary works at Adlington, for R.D.C. Documents from the office of the Engineer and Surveyor, Council Offices, King Edward Street, Macclesfield. Deposit £3. Tenders by March 8.

**\*Manchester.**—Davyhulme sewage works extensions, stage 1b, for City Council. Tenders by March 14.

**\*Pudsey, Yorks.**—Reconstruction of Smalewell sewage disposal works, for B.C. Deposit £5 5s. Tenders by March 16.

**Sedgley, Staffs.**—Cotwallend-Catholic Lane foul sewerage, for U.D.C. Construction of 3,380yd. 6in. foul sewer, including cast-iron pipes on piers and all necessary manholes. Applications accompanied by brief list of similar contracts recently completed, to K. R. F. Newton, clerk and solicitor to the Council, Council House, Sedgley, by March 2. Deposit £2 2s. Plans seen at the office of the Surveyor, The Limes, Dudley Road, Sedgley.

**Sherborne, Dorset.**—Construction of the following three sewerage schemes, for R.D.C.:

(i) Sewerage of Alwinston, comprising laying 840 lin. yd. of 6in. dia. concrete pipe sewers, and extension of the sewage disposal works; (ii) sewerage of Thornford, comprising laying 1,200 lin. yd. of 6in. dia. concrete pipe sewers and construction of a sewage disposal works; (iii) sewerage of Bradford Abbas, comprising laying 1,370 lin. yd. of 6in. dia. concrete pipe sewers, extension of sewage disposal works, and construction of a sewage pumping station and rising main. Contractors may tender for any one or for all three schemes and the Council may award the contracts individually or collectively to suitable firms as they may decide. Documents from Allen and Webber, consulting engineers, Half Moon Street, Sherborne. Deposit £3 3s. each contract. Tenders by March 15.

**Southampton.**—Elimination of cesspits, stage three—Glen Eyre Road, Bassett, for B.C., comprising the construction of approx. 860 lin. yd. of 6in. dia. stoneware sewer, together with manholes and other appurtenant works. Submit names to the Borough Engineer and Surveyor, Civic Centre, Southampton, by Feb. 27.

**Southam, War.**—Shotteswell sewerage, for R.D.C. Work consists of: (a) Laying of approximately 1,300yd. of 6in diameter spun iron sewers together with the construction of relevant manholes; (b) construction of a sewage disposal works consisting of two septic tanks capacity 6,600 gallons, one percolating filter, 134 cu. yd., two humus tanks capacity 1,500 gallons and a sludge and supernatant water pump station, together with the necessary drains, chambers, etc.; (c) house connection. Applications to W. Herbert Bateman and Partners, Chesterfield House, Bathaston, Bath, with the names and addresses of three engineers under whose direction similar schemes have been carried out. Deposit £5 5s. Tenders by March 21.

**Southwell, Notts.**—Farnsfield, Edingley and Halam sewerage and sewage disposal scheme, for R.D.C. Construction of two sewage pumping stations; extension of the Farnsfield sewage disposal works including the construction of two vertical flow sedimentation tanks, storm tanks, humus tanks and filter bed; the laying of 6in. diameter sewers in the village of Edingley; the laying of 1,000yd. of 5in. diameter and 1,100yd. of 4in. diameter cast-iron pumping main; together with all appurtenant works. Documents from K. Dyson, engineer, Council Offices, Westgate, Southwell. Deposit £5 5s. cheque. Tenders by March 31.

**Stirling.**—Main drainage, contract 3, main intercepting sewer, purification works to town outfall, for B.C. Construction of about 850 lin. yd. of sewer of 42in. diameter together with manholes and other incidental and relative works. The principal route of the sewer follows the bank of the River Forth and as an alternative the Council is prepared to receive tenders for the work being carried out in tunnel following a route more remote from the river. Written applications to Crouch and Hogg, engineers, 18 Woodside Crescent, Glasgow. Deposit £5 5s. An engineer will meet intending contractors at 10 a.m. on March 8, at the Kerse Road entrance to the R.A.O.C. Depot. Tenders by March 25.

**Stourbridge, Worcs.**—Construction of approximately 145yd. of 9in. and 6in. foul and storm water sewers, including manholes, on the Wollaston Farm estate, for B.C. Documents from H. W. Morris, borough engineer and surveyor, Council House, Stourbridge. Tenders by March 2.

**Uckfield, Sussex.**—Main drainage, Hartfield, for R.D.C., comprising the construction of approx. 7,380yd. of 6in. dia. stoneware sewers and manholes, together with the adaptation of existing tanks as sedimentation and storm water tanks, the construction of a percolating filter, humus tanks, and sludge drying beds. Documents from the Surveyor, Council Offices, Beacon Road, Crowborough. Deposit £2 2s. Tenders by March 17.

#### STREET LIGHTING

**Belfast.**—Supply of sodium floodlighting lanterns, brackets, steel standards and flashing beacon equipment (Spec. No. W.172), for City Council. Documents from the Electricity Department, East Bridge Street, Belfast. Deposit £1 1s. Extra copies of documents 10s. 6d. each which the Belfast Corporation Electricity Department. Tenders by March 4.

**Ellesmere Port, Ches.**—Provision and erection of 80 concrete group B electric street lamps complete in various parts of the borough as infilling between existing lamps, contract 292, for B.C. Documents from the Borough Engineer and Surveyor, Queen Street, Ellesmere Port. Tenders by March 14.

**Heston and Isleworth, Middx.**—Installation of street lighting to group A standard in Wellington Road North and Wellington Road South, Hounslow (B.358) from Bath Road to Hanworth Road, for B.C. The work includes the removal of 35 existing columns and the

supply and erection of 44 steel columns with mercury fluorescent (colour corrected) lamps, lanterns and control gear. Documents from the Borough Engineer's Department, 88 Lampton Road, Hounslow. Deposit £2 2s. Tenders by March 11.

**Radcliffe, Lancs.**—Supply and installation of 14 140-watt sodium discharge lamps on 25ft. concrete columns and brackets and the removal of 12 existing lighting points at Countess Lane, for B.C. Documents from the Borough Engineer and Surveyor, Town Hall, Radcliffe. Tenders by March 7.

**Southgate, Middx.**—Following contracts in connection with the improvement of street lighting to group B standards on certain district roads within the Borough, for B.C.: Contract A—Supply only of lanterns and control gear for 630 60-W sodium vapour discharge lamps; contract B—supply and erection of concrete lamp standards and fixing lanterns, control gear, wiring, etc., for 630 units 15ft. mounting height. Separate contract documents will be issued and contractors may tender for one or both contracts, relevant documents from the Borough Engineer and Surveyor, Town Hall, Palmers Green, London, N.13. Tenders by March 7.

## AWARDS

### BUILDING AND DECORATING

(See also Housing Schemes)

**Andover, Hants.**—Extension to the maternity unit at the War Memorial Hospital, for the Wessex Regional Hospital Board. S. Kilgour, architect: Building work—Eades Bros., Charlton, Andover; electrical—Giles and Mitchener, 14 Elm Bank Road, Andover. Estimated cost £4,500. Work commenced.

**Ayr.**—Conversion of Dalmling Farm House into a clubhouse, for B.C.: Robert Hutchison (Builders), Ltd., 3 Falkland Park, Ayr, £2,936.

**Ballymena, Antrim.**—Erection of manual telephone exchange at Ballymena: J. and H. E. Doherty, Ltd., Bushmills Road, Coleraine, £90,000.

**Barking, Essex.**—Reconstruction of the bath surround and the provision of balcony supports at the public baths, for B.C.: Concrete, Ltd., Craven House, 16 Northumberland Avenue, London, W.C.2, £1,555.

**Bedford.**—Erection of six shops with maisonnettes over and 20 garages at Priory Street redevelopment area I, and temporary office building on car park site adjacent to the former girls' modern school, for B.C.: W. M. J. Bushby, Ltd., 30 High Street, Kempston, Bedford, £35,457, and V. Hallam, Ltd., Langley Mill, Nottingham, £652 (recommended, subject to Ministry approval).

**Blackhill, Dur.**—Extension of ante-natal clinic at Richard Murray Hospital, for Newcastle Regional Hospital Board: Fennell and Baddiley, architects, Bridge End Chambers, Chester-le-Street, in conjunction with P. H. Knighton, architect to the Board: Thos. Barrett, Sons and Partners, quantity surveyors: 17 Brunswick Place, Newcastle upon Tyne, 1: Tate and Holmes, Ltd., Benwell, Newcastle upon Tyne, 5, £11,115.

**Blyth, Northumb.**—Construction of a block of beach chalets on The Links, for B.C. D. W. Foster, borough engineer: Direct Labour, £2,667. Work commencing April 1.

**Bradford, Yorks.**—Following works, for City Council: Erection of Blind Welfare Centre—L. Sheffield, Ltd., 7 Corban Street, Bradford, 4, £34,511; internal painting at Institute of Technology—D. E. Bagley and Co., Ltd., 111 Legrams Lane, Bradford, 7, £746 (both recommended).

Construction of combined public shelter and conveniences at junction of Leeds Road and Leeds Old Road—J. and J. Obank and Co., Ltd., Overdale Town Lane, Idle, Bradford, £3,682 (recommended in lieu of previous tender).

**Cardiff.**—Design, purchase of materials and construction of a new oil storage installation at Alexandra Dock, for the Regent Oil Co., Ltd.: Constructors John Brown, Ltd., C.J.B. House, 20 Eastbourne Terrace, London, W.2. Estimated cost £450,000 (preliminary work just commencing).

**Chelsea.**—Carrying out stage 8a of the Elm Park Gardens conversion scheme at 96, 98 and 100 Elm Park Gardens, for B.C.: W. J. Marston and Son, Ltd., 1 Stephendale Road, S.W.6, £34,684 (recommended).

**Chingford, Essex.**—Following, for B.C. G. C. Clark, borough engineer and surveyor:

Erection of conveniences in Pimp Hall Park and extension of a pavilion in Chingford Hall Park—Wallace and Wallace, Broomhill Road, Woodford Green, Essex, £1,786 and £1,896, respectively; construction of pumping station, approximately 20ft. in depth, constructed of 12ft. internal diameter precast concrete segmental rings, with incidental works, at Albert Crescent convenience—J. Bray, Mottingham, London, S.E.9, £3,827. Work commencing March 1.

**Eastbourne, Sussex.**—Erection of garage accommodation at Civil Defence Rescue training ground, for B.C.: Y. J. Lovell and Son, Ltd., 4 Endsleigh Gardens, London, W.C.1, £4,929 (subject to Home Office approval); Carn and Son, £5,095; W. Llewellyn and Sons, Ltd., £5,183.

**Ely, Cambs.**—Alterations to sluice unit at St. John's Hospital, for the East Anglian Regional Hospital Board: L. Peat, 142 High Street, Chatteris, £1,884 (recommended).

**Exeter.**—Erection of 38 garages at King Arthur's Road, Beacon Lane housing estate, for City Council: A. E. Gregory and Son, Rutherford Street, Heavitree, Exeter, £5,676 (recommended, subject to Ministry approval).

**Folkestone, Kent.**—Repairs to 4 Athelstan Road, for B.C.: B. Stone, 103 Sidney Street, Folkestone, £993 (recommended).

**Great Yarmouth, Norfolk.**—Construction of a kitchen and foul-wash house at Northgate Hospital, for the East Anglian Regional Hospital Board: E. Moore and Son, Ltd., Lichfield Works, Southtown, Great Yarmouth, £41,254 (recommended, subject to Ministry approval).

**Greenwich.**—Improvement works at 78 Fingal Street, and conversion of 18 Charlton Road into flats, for B.C.: Direct Labour, £6,973 (recommended).

**Hackney.**—Erection of a three-storey wing at the annexe to Clapton Park Secondary School, Chelmer Road, for L.C.C.: R. J. Truscott, Ltd., Avenue Road, London, E.7, £21,045 (accepted); Howard and Co., £22,293; Harrison and Spooner, Ltd., £22,335; T. R. Roberts (Builders), Ltd., £22,398; Walter Gladding and Co., Ltd., £22,981; J. and C. Bowyer, Ltd., £23,828; Wm. J. Jerram, Ltd., £24,380.

**Hatfield, Herts.**—Erection of North Myrms one-form entry infants' school, for C.C.: G. Davies and Son (Broxbourne), Ltd., High Road, Broxbourne, £24,015.

**Hertfordshire.**—Internal redecoration at the police station, Hertford, for C.C. W. Burgess and Co., Ltd., Bayford, £746 (recommended).

**Ilkley, Yorks.**—Conversion of the Old Manor House in Castle Yard to museum and art gallery, for U.D.C.: O'Brien and Richmond, Ltd., Cambridge Street, Otley, £7,500.

**Ipswich, Suffolk.**—Alterations to administrative block at St. Helen's Hospital, for the East Anglian Regional Hospital Board: G. and H. Knights, Ipswich, £683 (recommended).

**Isle of Man.**—Construction of kitchens and staff dining rooms at Ballamona Hospital, for the Health Services Board: Parkinson's, Ltd., Water Street, Ramsey, I. of M., £16,617.

**Islington.**—Repair and conversion works to following properties, for B.C.: 8 Leonfield Road, 49 Wray Crescent, 157 Southgate Road, 42 Dalmeny Road, and two Witherington Road—R. Talbot and Sons (London), Ltd., 356 Caledonian Road, London, N.1, £2,367, £3,462, £2,358, £1,664 and £2,130; 174 Highbury Hill, 9 and 11 Northampton Park, 31 Beresford Road, 47 Queens Head Street, 16 Northolme Road and 90-92 Drayton Park—Kenny and Reynolds, 28 Loraine Road London, N.7, £1,525, £2,739, £1,790, £1,289, £1,825, £2,628; 30 Leonfield Road—Heelas and Briggs, 14 Dunford Row, London, N.7, £1,644; 566 Caledonian Road—W. T. Ricketts and Sons, Ltd., 73 Southgate Road, London, N.1, £1,211; 10 Rosseigh Avenue—E. Basham, Ltd., 6 St. Paul's Place, London, N.1, £1,336.

**Kesteven.**—Erection of old people's home at Gorse Road, Grantham, for C.C.: J. W. H. Barnes, county architect: C. W. and A. L. Hughes, Ltd., 341 Humberstone Road, Leicester, £47,640. Work just commenced.

**Lakenheath, Suffolk.**—Erection of shop at High Street, for the Lakenheath Co-operative Society, Ltd.: Diver and Sons (Isleham), Ltd., Lakenheath, £1,900. Work commencing shortly.

**Leyton, Essex.**—Repairs to various properties, for B.C.: Contracts 15 and 16—James Thomas and Sons, Ltd., 341 Seven Sisters Road, London, N.15, £3,485 and £2,372, respectively; contract 17—S. Grover, Ltd., Grange Works, Clinton Road, London, E.7, £2,685 (recommended).

**Llangefni, Anglesey.**—Erection of factory on the industrial estate, for the Wales and



- Monmouthshire Industrial Estates, Ltd., B. Hallwood, Lingard and Associates, architects, 37 Woodhill Road, Colwyn Bay; L. C. Wakeman and Partners, quantity surveyors, 47 Bloomsbury Square, London, W.C.1; William Cowlin and Son, Ltd., Penarth Road, Cardiff, £43,331. Work commenced.
- London.**—Erection of a light industrial building at 29-35 Farringdon Road, London, E.C.1, for The Calgary and Edmonton Land Co., Ltd., 13 Avenue Road, London, N.W.8; Tersons, Ltd., Dollis Park, London, N.3, estimated cost £150,000. Arthur Swift and Partners, architects, 21 Upper Grosvenor Street, London, W.1. E. J. Cook (Engineers), Ltd., structural consultants, 54 South Side, Clapham Common, S.W.4. Wakeman, Trower and Partners, quantity surveyors, 47 Bloomsbury Square, W.C.1. Site works commenced.
- Manchester.**—Following, for City Council: Alterations to form kitchen and dining room at Wheeler Secondary School—G. W. Dawson and Co., Harpurhey Road, Lower Crumpsall, Manchester, 8.  
Supply and erection of prefabricated precast concrete garages, as follows: 36 at Partington, 24 at Knutsford and 38 at Hazel Grove and Bramhall—Four Square Industries, Ltd., Newton Works, Middlesbrough (subject to Ministry approval).
- Middlesbrough, Yorks.**—Supply and erection of steelwork for the new Eastside Primary School, for E.C. K. J. Caton, education architect: J. W. Ellis and Co., Ltd., Great North Road, Newcastle upon Tyne, £4,824.
- Middlesbrough, Yorks.**—Following works, for B.C. Erection of lodge in Pallister Park—L. G. Goodwill, 7 Norwood Road, Thorntree, Middlesbrough, £1,961 (recommended, subject to Ministry approval).  
Following sub-contractors for Central Works Depot: Glazing work to office block—H. Dobson (Glass Merchants), Ltd., Stockton-on-Tees, £339; supply and fixing of internal partitions (steel) to office block—John Williams of Cardiff, Ltd., £2,718; supply and fixing of prestressed beams and roof units for boiler house, cement store and electricity sub-station—Concrete (Northern), Ltd., Leeds, £630 (all recommended).
- Newbury, Berks.**—Conversion work to 93 houses at Chestnut Crescent, Hawthorn Road, Laburnum Grove, Newport Road, Cromwell Road and Doveton Way, for B.C.: D. T. Attwell and Co., Ltd., London, N.W.10, £3,425 (recommended).
- Newcastle upon Tyne.**—Construction of regional neurological centre at General Hospital, for Regional Hospital Board. P. H. Knighton, chief architect. T. Barrett, Sons and Partners, quantity surveyors, Brunswick Place, Newcastle; R. W. Gregory and Partners, consulting engineers, Pilgrim House, Pilgrim Street, Newcastle; D. W. Cooper, structural consultants, Thorntree Drive, Lemington, Northumb.; Crudens, Ltd., Musselburgh, Scotland, £382,520.
- Newcastle upon Tyne.**—Alterations and extensions to provide plastic surgery operating suite at General Hospital, for Regional Hospital Board. P. H. Knighton, architect to the Board; Thos. Barrett, Sons and Partners, quantity surveyors, 17 Brunswick Place, Newcastle upon Tyne, 1; Harry Kindred (Newcastle), Ltd., 371 West Road, Newcastle, 5, £14,269.
- Newmarket, Suffolk.**—Provision of a group pharmacy section at Newmarket General Hospital, for the East Anglian Regional Hospital Board: H. Holland, Ltd., 11 Falmouth Street, Newmarket, £17,186 (recommended).
- Norfolk.**—First instalment of the new school at north Pickenham, for E.C.: O. Staines and Son, Swaffham, £10,262 (subject to M.E. approval).
- Norwich.**—Improvements to geriatric wards A, B and C at West Norwich Hospital and conversion of workshops to form male ward unit at St. Andrew's Hospital, Thorpe, for the East Anglian Regional Hospital Board: W. S. Lusher and Son, School Lane, Sprowston, Norfolk, £21,947, and Ford and Carter, Ltd., Baltic House, Mountergate, Norwich, £3,982, respectively (recommended).
- Nottingham.**—Erection of church hall in south Church Drive, Clifton estate, for Notts. Congregational Union. F. A. Broadhead and Rolve, architects, 2 Castle Place; J. Fish and Sons, Ltd., 567 Woodborough Road, Nottingham.
- Oxford.**—Following works, for City Council: Insertion of a damp-proof course in 10 pre-war houses in Churchill Place—Symm and Co., Ltd., 43 Little Clarendon Street, Oxford, £3,403; supply and erection of 14 garages at Sawpit Road and 16 at Bray Close—Bell and Webster, Ltd., Hoddesdon, Herts., £917 and £1,048, respectively; erection of 26 garages at the North Oxford B site—J. Laing and Son, Ltd., Mill Hill, London, N.W.7, £3,720; Supply and erection of 19 garages at Tucker Road, Blackbird Leys estate and erection of 15 further garages at Ilsley Road, Barton estate—Marley Concrete, Ltd., Sevenoaks, Kent, £1,160 and £1,100, respectively (recommended, subject to Ministry approval).
- Reading, Berks.**—Erection of Manor Junior School, for B.C.: Tilbury Construction Co., Ltd., Twyford, Reading, £53,780 (recommended).
- Reading, Berks.**—External painting of 1,735 Council houses during 1960-61, for B.C.: Direct Labour.
- Rickmansworth, Herts.**—Erection of a Civil Defence Centre, for C.C.: Woodside Builders Ltd., 232 Horsehoe Lane, Garston, Watford, £7,776 (recommended, subject to Home Office approval).
- Rochdale, Lancs.**—Construction of retaining wall adjoining Netherfield, Half Acre Road, for B.C.: Brierley and Castree, Mellor Street, Rochdale, £1,617.
- St. Albans, Herts.**—Erection of two nursery classes at Aboyne Lodge Infants' School, for C.C.: Woodside Builders, Ltd., 232 Horsehoe Lane, Garston, Watford, £10,917 (recommended).
- Sittingbourne and Milton, Kent.**—Erection and completion of a single-storey extension to provide a ladies' lavatory and cloakroom at Sittingbourne Town Hall, for U.D.C. A. W. Lloyd, engineer and surveyor: C. L. Taylor and Son, Chalkwell Road, Sittingbourne, £2,124.
- Sunderland, Dur.**—Alterations to science laboratory at West Park Secondary Technical School, for E.C.: Hurrell Bros., Peacock Street, Sunderland, £3,000.
- Sunderland, Dur.**—Reconstructing shop premises in Fawcett Street, for Hope Bros.: W. G. Riddle and Son, 123 Chester Road, Sunderland.
- Tottenham, Middx.**—Extension of factory and office space, including a new two-storey building and replacement of a temporary engineering shop by a 9,000 sq. ft. building, for C. D. Monninger, Ltd.: James Thomas and Sons, Ltd., 341 Seven Sisters Road, London, N.15. Estimated cost £120,000. Work commenced.
- Walsall, Staffs.**—Conversion of the second bedroom into a working kitchen in 104 Duplex flats at Fisher Road, Bloxwich, for B.C.: Direct Labour (recommended, subject to Ministry approval). Estimated cost £7,800.
- Waltham Cross, Herts.**—Extensions to the Waltham Cross S.M. School, for C.C.: Townsend and Collins, Ltd., 129 Goat Lane, Enfield, £20,813. Work commenced.
- West Hartlepool, Dur.**—Supply and erection of steelwork for the Brierton Hill Secondary Technical School, for Girls, for E.C. A. G. Sinclair, borough architect: Teesdale and Metcalfe, Ltd., Wetherby, Yorks. Precast concrete floors and roof—Windsor Construction, Ltd., Windsor.
- Wibsey, Yorks.**—Erection of warehouse at Wibsey, for Gratton Warehouses, Ltd., Bradford: George Wimpey and Co., Ltd., £170,000.
- Winsford, Ches.**—Supply and erection of 22 prefabricated concrete garages, Dene estate and Meadow Bank, for U.D.C.: Four Square Industries (Middlesbrough), Ltd., Middlesbrough, Cheshire, £1,623 (subject to Ministry approval).

## DEMOLITION

- Bradford, Yorks.**—Demolition of property bounded by Hall Ings, Bentley Street, Booth Street and Leeds Road, for City Council: E. Bolton, Morley, £2,800 (recommended).
- Brandon, Dur.**—Clearance of site of Littleburn Colliery, for U.D.C.: Shellabear Price, Ltd., Auckland House, New Zealand Avenue, Walton-on-Thames, £25,000 (subject to Ministry approval).
- Bromley, Kent.**—Demolition of (a) 1 and 3 Simpsons Road and part of the Two Brewers property, and (b) 112 and 114 Plaistow Lane, for B.C.: Lewisham Demolition Contractors, Ltd., Chalk Avenue, St. Paul's Cray, (a) £220 and (b) £14 (recommended).
- Gosport, Hants.**—Demolition of the following properties and site clearance work, for B.C.: (Site A) 19 in York Street—Murray's Transport, Portsmouth, paying to the Council the sum of £10; (B) six in Clarence Square (C) 11 in Mount Street and five in Clarence Square, and (D) Bridgemary House, Fareham Road—Trelor and Sons (Contractors), Ltd., Gosport, paying to the Council the sums of £60, £30 and £10, respectively.
- Islington.**—Demolition of 3-6 Hillmarton Road, for B.C.: St. Mary's (Contractors), Ltd., 273 Sussex Way, London, N.19, £422 (recommended).
- Demolition of 13-33 Provence Street—St. Mary's (Contractors), Ltd., £896 (recommended).
- Rochdale, Lancs.**—Demolition and clearance of following, for B.C.: 698 and 700 Bury Road, 88, 90 and 92 Platting Lane, and 1 and 3 Manchester Road—B. G. Blomfield and Sons, 11 Cook Street, Rochdale, £50; 9 College Street—T. B. Tomlinson, Schofield Street Works, Heywood, £40.
- Ware, Herts.**—Demolition of the air-raised shelter in Kibes Lane, for C.C.: Ekins and Co., Ltd., Great Northern Works, Hertford, £588.
- Rotherham, Yorks.**—Demolition of the Hippodrome in Henry Street, for B.C.: Messrs. Bower, Barborough, Chesterfield. Work about to commence.

## ELECTRICAL

- Bradford, Yorks.**—Electrical rewiring work at Cartwright Memorial Hall, for City Council: W. D. Wilson, Ltd., 9 Booth Street, Bradford, 1, £684 (recommended).
- Chelsea.**—Modernisation of electrical wiring and fittings at the Large Hall, as follows, for B.C.: Modernisation work and supply and installation of new lighting fittings—G.E.C., Ltd., Magnet House, Kingsway, London, W.C.2, £2,097; rewiring work for whole of electrical improvements—Strand Electric and Engineering Co., Ltd., 29 King Street, London, W.C.2, £966 (both recommended).
- Halesworth, Suffolk.**—Electrical work at Risbridge Home, Kedington, for the East Anglian Regional Hospital Board: Eastern Electricity Board, £2,282 (recommended).
- Manchester.**—Following works, for City Council: Electrical work for Yew Tree Secondary School—Frank Wall and Co., Ltd., Oldham.  
Electrical installation in dwellings at the following: 20 at Plant Hill Road, Blackley—G. W. Henry, Ltd., Brighouse; six at Newall Green—H. P. Dowell and Sons, Hayfield; 48 at Alexandra Place dwellings conversion scheme—F. L. Bampton, Ltd., Manchester; five at Langley estate—(contract 242D) subject to conditions—Yewsons Electrical Contracting, Oldham.
- Newcastle upon Tyne.**—Following works, for Regional Hospital Board: Electrical work for additions to Fulbeck Grange Nurses' Home—Selborne Engineering Co., Newcastle, £2,362; alterations to electrical system at Hundens Hospital—Cox-Walkers, Ltd., Darlington, £691; ring main installation at St. George's Hospital—Watson Norie, Ltd., Newcastle upon Tyne, £4,508.
- Norwich.**—Electrical engineering services for the recreation hall and administrative block at Little Plumstead Hospital, for the East Anglian Regional Hospital Board: Johnson Pearce and Co., Ltd., 48 Pitt Street, Norwich, £8,112 (recommended).
- St. Marylebone.**—Electrical rewiring of Capland and Selina Houses on Fisherton Street estate, for B.C.: Troughton and Young, Ltd., Imperial Court, Basil Street, London, S.W.3, £2,197 (recommended).

## FENCING

- Barking, Essex.**—Fencing to Newland Park, Thames View estate, for B.C.: Bayliss, Jones and Bayliss, Ltd., 139 Cannon Street, London, E.C.4, £823.
- Bedford.**—Supply and erection of pig wire fencing along two sides of part of Bakers Lane refuse tip, for B.C.: Bell and Webster, Ltd., Essex Road, Hoddesdon, Herts., £456 (recommended).
- Blackburn, Lancs.**—Following, for B.C.: Erection of chain link fencing on the Shadsworth, Everton, Winmarleigh Street and Lincoln Street housing sites—Darlington Fencing Co., Ltd., Balby, Doncaster, £3,678; supply and erection of railings at St. Stephen's C.E. School—Raymond Sleigh, Ltd., Leigh.
- Fulham.**—Supply and erection of galvanised chain link fencing at Bishop's Park tennis courts, for B.C.: Peerless Fence and Products, Ltd., Priory Avenue, Harefield, Uxbridge, Middx., £537 (recommended); Dura Fencing (London), Ltd., £704; Bayliss, Jones and Bayliss, Ltd., £838.
- Greenwich.**—Supply and erection of 191yd. of mild steel fencing at Springfield Grove estate, for B.C.: Bayliss, Jones and Bayliss, Ltd., 139 Cannon Street, London, E.C.4, £643 (recommended).
- High Wycombe, Bucks.**—Renewal of front entrance gates to 200 houses at Spearing Road, for B.C.: J. B. Corrie (Flexella), Ltd., £1,320 (recommended).



**Idlington.**—Supply and erection of temporary fencing at Trent Park Cemetery, for B.C.: Permafence, Ltd., 225 High Street, London, W.5, £101 (recommended).

#### GAS AND WATER SUPPLY

**Ballymena, Antrim.**—Dunlopstown-Strait and Curry's Bridge (Slatt), water distribution scheme, contract 11, for R.D.C. R. Ferguson and S. McIlveen, consulting engineers, 15 College Gardens, Belfast: Patrick Keenan, Leitrim, Castledawson, £19,470 (accepted); R. J. Pattison Nutt and Sons, £19,810; Moore Bros., £28,614; The Ballymena Construction Co., £21,186; Diamond Bros., £22,859; W. M. Bolton and Sons, Ltd., £21,044; The Norwest Construction Co., Ltd., £21,208; White and Co., £19,683. Work to commence March.

**Beebles, Suffolk.**—Construction of a 120,000-gallon reinforced concrete water tower, together with works incidental thereto, in the borough of Beebles, for B.C. A. P. I. Cotterell and Son, consulting engineers, 54 Victoria Street, London, S.W.1: Vibrated Concrete Construction Co., Ltd., 2 Caxton Street, London, S.W.1, £21,782. Work commencing in two months.

**Cheadle, Staffs.**—Cheddleton water scheme, proposed 3in. diameter water main extension to Forsbrook, contract 307, for R.D.C., comprising the laying of approximately 1,600 lin. yd. of 3in. diameter cast-iron water main, together with ancillary works: G. McNamara (Derby), Ltd., 85, Field Lane, Alvaston, Derbys., £2,989 (accepted); John Hadfield and Sons, Ltd., £3,246; Bowmer and Kirkland, £3,305; Clifford Henshall, Ltd., £3,389; F. H. M. Contractors, Ltd., £3,637; Ball and Robinson, £7,573.

**Goole, Yorks.**—Water supply extensions at East Cowick, for R.D.C.: H. Glew and Co., Goole, £1,054 (accepted provisionally).

**Kincardineshire.**—Loch Lee water supply scheme, distribution piping, phase 1, contract 2, for C.C. Crouch and Hogg, 18 Woodside Crescent, Glasgow, C.3: Christie and Co. (Contractors), Ltd., Banchory, Kincardines., £41,703.

**Sussex.**—Laying of trunk mains 9in.-12in. in diameter between Cuckfield and Haywards Heath, for the Mid-Sussex Joint Water Board. The mains will be laid mainly through private land and will connect with the reservoir to be constructed at Cuckfield. Edward Sandeman, Kennard and Partners, consulting engineers, 171 Victoria Street, Westminster, London, S.W.1: S. M. Tidy, Ltd., 161 Preston Road, Brighton, 6, £5,089 (accepted); Kenyons (Civil Engineers), Ltd., £5,477; E. W. Avent, Ltd., £6,289; Hadsphalitic Construction, Ltd., £6,320; A. L. J. Davis, Ltd., £6,549; Wm.

Press and Son, Ltd., £6,417; J. Murphy and Sons, Ltd., £7,099; McGinty Construction Co., £7,489; Whittaker Ellis, Ltd., £9,217.

**Wigtownshire.**—Laying water mains in the Sandhead-Clachanmore-Ardwell area, contract D.M./3, for C.C.: John McEwan (Contractors), Ltd., 1 Victoria Lane, Newton Stewart, £8,828. Work to start in March.

#### HARBOURS, PIERS AND SEA DEFENCE WORKS

**Wigton, Cumb.**—Construction of additional groynes for sea defence works at Silloth, for R.D.C.: Harbour and General Works, Ltd., Howdon-on-Tyne, Northumb., £22,172.

#### HEATING AND VENTILATING

**Bradford, Yorks.**—Supply and installation of an oil-fired boiler and fuel tank at Gilstead pressure filters, for City Council: F. L. Sanderson and Son, Ltd., 36 City Road, Bradford, 8, £976 (recommended).

**Hendon, Middx.**—Provision and installation of electric water heaters in 457 dwellings at Watling estate, for L.C.C.: F. J. Baynes and Co., Ltd., Northampton House, St. Paul's Road, London, N.1, £25,232 (accepted); Wm. Edgar and Son, Ltd., £25,631; J. C. Spooner (Heating), Ltd., £26,431; Stitson, White and Co., Ltd., £26,482; Ellis (Kensington), Ltd., £28,114.

**Stamford, Lincs.**—Supply and installation of plant for the ventilation of operating theatre suite at Stamford and Rutland Hospital, for the East Anglian Regional Hospital Board: Mellor Bromley (Air Conditioning), Ltd., Barkby Road, Leicester, £2,922 (recommended).

**Swainsthorpe, Norfolk.**—Installation of water treatment plant in connection with the renewal of the hot water system at Vale Hospital, for the East Anglian Regional Hospital Board: Permutit Co. Ltd., Gunnersbury Way, London, W.4, £804 (recommended).

#### HOUSING SCHEMES

**Bedford.**—Fifty houses and 38 garages at Brickhill Drive/Rookmead and 22 houses (for sale) at Mallard Hill and Robin Hill, for B.C.: W. M. J. Bushby, Ltd., 30 High Street, Kempston, Bedford, £83,400, and Gambriel and Sugars, Ltd., Dane Lane, Wilstead, Bedford, £46,010, respectively (recommended, subject to Ministry approval).

**Blackpool, Lancs.**—Forty-eight one-bedroom flats and 36 bed-sitting room flats with stores, on Mereside estate, contract 24, for B.C. Arthur Hamilton, borough surveyor: R. Fielding and Son (Builders), Ltd., Stanhope Road, Blackpool, £109,300.

**Border, Cumb.**—Five houses and six bungalows at English Street, Longtown, for R.D.C.: J. Tuddenham and Sons, 25 Bridge Street, Longtown.

**Cambridge.**—Provision of stokers and associated equipment at Fulbourn Hospital, for the East Anglian Regional Hospital Board: J. Hodgkinson (Salford), Ltd., Brettenham House, Lancaster Place, London, W.C.2, £3,067 (recommended).

**Chipping Norton, Oxon.**—Four flats at Kingham, for R.D.C.: Bartlett Bros., Ltd., 75 High Street, Witney, £5,277.

**Gateshead, Dur.**—One hundred and thirty-eight traditional houses, for the North-Eastern Housing Association, Windsor Terrace, Newcastle upon Tyne: John Twiname, Ltd., Allerdale House, Brigham, Cumb. (subject to Ministry approval).

**Gosforth, Northumb.**—Thirty houses and flats and six garages on the Coxlodge estate, for U.D.C. C. Wyld, surveyor: Cussins (Contractors), Ltd., The Drive, Gosforth, £30,715.

**Hebburn, Dur.**—Forty dwellings in four-storey flats in Station Road, for U.D.C. R. C. Bestow, surveyor: Direct Labour, £89,485.

**Hemel Hempstead, Herts.**—Two pairs of police houses at Coles Close, for C.C.: Woodside Builders, Ltd., 232 Horsehoe Lane, Garston, Watford, £8,650 (recommended).

**Leyton, Essex.**—Four flats at Carnarvon Road and four at Malvern Road, for B.C.: J. and J. Dean (Contracts), Ltd., Ruckholt Works, Ruckholt Close, London, E.10, £12,751 (recommended, subject to Ministry approval).

**Manchester.**—Supply and erection of balcony and staircase balustrading to 124 maisonnettes at St. George's (Contract 260A), for City Council: Gorton and Blakemore, Ltd., Atherton.

**Newcastle upon Tyne.**—Six hundred and thirty flats in 15-storey blocks at Pottery Bank and Scotswood Road (Hawes Street) redevelopment area, for City Council: George Wimpey and Co., Ltd., Hammersmith Grove, London, W.6, £1,358,715 (recommended, subject to Ministry approval).

**Norwich.**—Mechanical engineering services for the recreation hall and administrative block at Little Plumstead Hospital, for the East Anglian Regional Hospital Board: G. N. Haden and Sons, Ltd., 50 Prince of Wales Road, Norwich, £9,792 (recommended).

**Pontypridd, Glam.**—One hundred and eighteen No-Fine houses at Glyncoch, for U.D.C.: G. Wimpey and Co., Ltd., Hammersmith Grove, London, W.6, £206,978.

**Port Talbot, Glam.**—Forty-two maisonnettes in seven blocks of six dwellings at Harry site, Sandfields, Aberavon, for B.C. G. V.

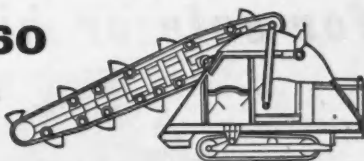
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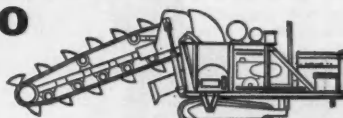
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16in. to 60in.  
wide.  
14ft. max.  
depth.



**14-30**

14in. to 30in.  
wide.  
8ft. 6in. max.  
depth.



**12-21**

12in. to 21in.  
wide.  
6ft. max. depth.



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**Queenborough, Kent.**—Twenty-four three-bedroom houses at Rushenden site, for B.C.: E. Bishop and Sons, Ltd., Albany Street, Sittingbourne, Kent, £34,228 (recommended, subject to Ministry approval); T. R. Swann and Co., Ltd., £33,916; Bennett and Smith (Builders), Ltd., £35,867; R. M. Brooks, Ltd., £36,759.

**Risca, Mon.**—Following works, for U.D.C.: Thirty-two three-bedroom houses and 28 flats at Channel View site, Pontymlister: W. Jerman and Sons, Ltd., Ebbw Street, Risca, Mon., £91,733 (accepted); Tavener (Contractors), Ltd., £103,311; Hutchings Developments, Ltd., £103,332; Modern Building, Ltd., £92,029; Gee Walker and Slater, £94,170. Work commencing April 1.

One block of five single-storey bungalows at the copper works, Danygraig, with ancillary works: W. Jerman and Sons, Ltd., Ebbw Street, Risca, Mon., £6,570 (accepted); Hutchings Developments, Ltd., £6,643; Davies and Screen, Ltd., £6,960; Tavener (Contractors), Ltd., £7,411. Work commencing April 1.

**South Kesteven, Lincs.**—Following works, for R.D.C.: Nineteen old people's bungalows, a warden's house and common room at Deeping St. James—J. W. Barber and Son, 9 Church Street, Stanground, Peterborough, £25,962.

Six teachers' houses: J. W. Barber and Son, £8,633 (recommended, subject to C.C. approval).

**Welshpool, Monts.**—Two one-bedroom houses at Dolyfelin housing estate, for B.C.: H. James and Sons, Mill Lane, Welshpool, £2,200 (recommended, subject to Ministry approval).

**Whitehaven, Cumb.**—Thirty two-bedroom houses in George Street, for B.C.: Gregory Housing, Ltd., 21 Farncombe Road, Worthing, Sussex, £47,047.

**Winsford, Ches.**—Eight bungalows of traditional brick construction on a site situated off Townfields Road, for U.D.C. L. E. Wakefield, engineer and surveyor: Shaw Bros., 2 Alamein Drive, Winsford, £9,067.

#### MATERIALS AND SUPPLIES

**Bedford.**—Supply of 1,280 metal lockers for the changing and clothes storage building, Newnham Baths, for B.C.: Binns and Taylor, Ltd., York, £2,458 (recommended).

**Chelmsford, Essex.**—Supply of the following materials for site development works at Meadgate estate, for B.C.: Steel reinforcement—G.K.N., Ltd., 197 Knightsbridge, London, S.W.1; manhole covers and gully gratings—Dudley and Dowell, Ltd., Whitehall Foundry, Cradley Heath, Staffs.; concrete pipes—Roberts Adlard, Chelmsford; glazed stoneware pipes—J. McBride, Ltd., 183 Hornchurch Road, Romford; precast structural concrete for the proposed crematorium: Truscon, Ltd., 35 Lower Marsh, London, S.E.1, £1,692.

**Chelsea.**—Supply of self-locking tower scaffolding, for B.C.: Mills Scaffold Co., Ltd., Trussley Works, Trussley Road, London, W.6, £200 (recommended).

**Gosport, Hants.**—Supply of bus shelters, for B.C.: E. W. Tyler and Co., Ltd., Tonbridge, Kent (recommended, subject to Ministry approval). Estimated cost £1,714.

**Hemel Hempstead, Herts.**—Supply of four mobile classrooms for erection at Rossgate Junior School, for C.C.: Robert H. Hall and Co. (Kent), Ltd., 5 Church Road, Paddock Wood, Kent (recommended).

**Maidenhead, Berks.**—Following for the new municipal buildings, for B.C.: Stonework (real)—South-Western Stone Co., Ltd., £16,992; metal window frames—Luxfer, Ltd., £5,272; sanitary fittings—Goslett and Co., Ltd., £1,331; floors (timber)—Hollis Bros., £1,900; stage lighting and equipment—W. J. Furze, Ltd., £1,463; metal staircases—S. W. Farmer and Co., Ltd., £196; cement glaze—Robb Cement, Ltd., £262.

#### PLANT AND MECHANICAL TRANSPORT

**Ashton-under-Lyne, Lancs.**—Supply of gully emptier, for B.C.: Rootes, Ltd., Manchester (recommended). Estimated cost £2,500.

**Bedford.**—Supply of the following, for B.C.: Disinfectant and ancillary equipment—Manlove, Allott and Co., Ltd., 41 Parliament Street, London, S.W.1, £1,483; Karrier Gamecock 3/4-ton capacity lorry, fitted with a Neal 15cwt. lorry loader—Nicholls and Sons, Ltd., St. Marys Square, Bedford, £1,819; mechanically operated inspection tower—S. Rawlinson, Ltd., Blackburn, £512 (recommended).

**Bradford, Yorks.**—Supply of two Broomwade compressors, for City Council: Pannell (Plant), Ltd., Torre Hill, Plymstock, Plymouth, Devon, £1,935 (recommended).

**Hastings, Sussex.**—Supply of a Lewin Sweepmaster road sweeper and a Thames Trader four-ton diesel engine vehicle, fitted with Eagle dual-purpose body, for B.C.: J. Hollingsworth, Ltd., Braybrooke Road, Hastings, £3,620 and £2,071, respectively (recommended).

**Kendal, Westmor.**—Supply of a two-tool type air compressor with two-wheel trailer and accessories, for B.C.: Atlas Copco, Ltd., Maylands Avenue, Hemel Hempstead, Herts., £1,309 (recommended).

**Newbury, Berks.**—Supply of a refuse collection vehicle, for B.C.: Shelvoke and Drewry, Ltd., Letchworth, Herts., £2,360 (recommended).

**Reading, Berks.**—Provision of Northcourt Avenue surface water sewer, for B.C.: Surface Maintenance Services, Ltd., 124 Old Christchurch Road, Bournemouth, £5,599 (recommended).

**St. Marylebone.**—Supply of a 2½-ton low-loading lorry fitted with crane, for B.C.: Rootes, Ltd., Ladbroke Hall, Barlby Road, London, W.10, £1,456 (recommended).

#### PLAYING FIELDS, PARKS, ETC.

**Leatherhead, Surrey.**—Regrading and seeding of approximately six acres of land at Lower Road, Great Bookham, including 7,000 cu. yd. of cut and fill, for U.D.C.: Groundwork Stanwell Crop Driers, Ltd., Horton Road, Stanwell, near Staines, Middx., £1,353.

#### RAILWAY ENGINEERING

**British Railways.**—Following contracts placed: Eastern Region:

Supply and erection of electrical installation in sheds 2 and 3 at Stratford Diesel Maintenance Depot—Drake and Gorham (Contractors), Ltd., 36 Grosvenor Gardens, London, S.W.1.

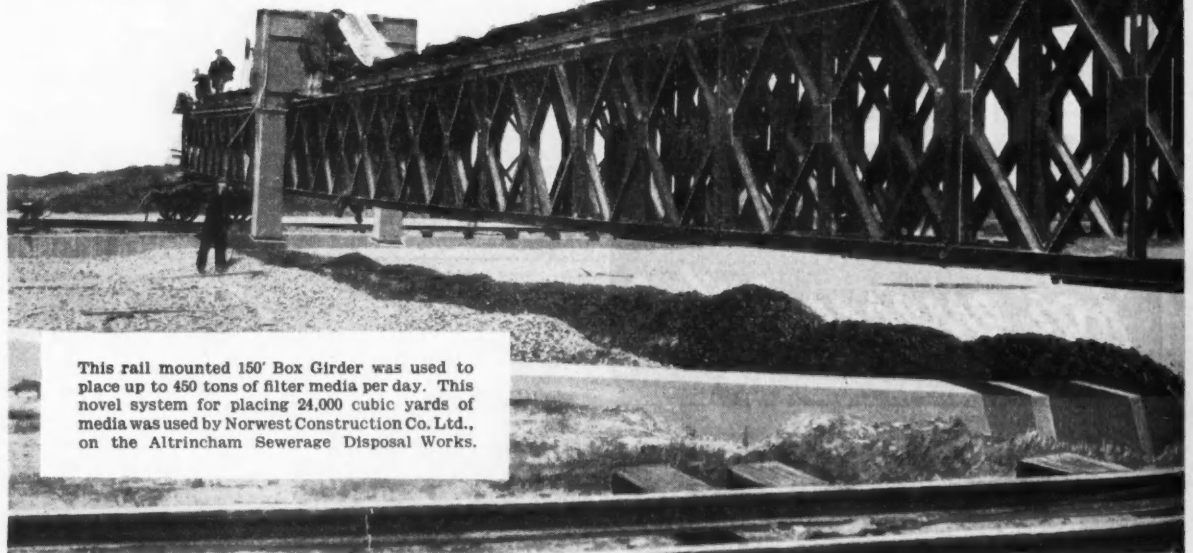
Construction of subway, concrete retaining wall and wing walls at Benfleet Station—Samuel Williams and Sons, Ltd., Chequers Lane, Dagenham Dock, Essex.

New building for automatic telephone exchange at Seven Sisters—Walter Lawrence and Son, Ltd., 31 Sun Street, London, E.C.2.

Supply and installation of three type ORT4 circuit breakers for Neepsend Substation—A. Reyrolle and Co., Ltd., Hebburn, Co. Durham.

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Construction of inspection pits on piled foundations, together with foundations, steel portal frames, cladding, etc., for inspection shed and also the construction of pumphouse and foundations for oil storage tanks, sub-station and transformer for diesel servicing and fuelling depot at Colchester Station—Holliday and Greenwood, Ltd., 11 Buckingham Palace Gardens, London, S.W.1.

#### RIVER AND FLOOD PREVENTION WORKS

**Brentford, Middx.**—Reconstruction of a River Thames lock, for British Transport Waterways, 163 Euston Road, London, N.W.1. The work involves constructing a new lock and then rebuilding the old one: John Howard and Co., Ltd., 13 Buckingham Gate, London, S.W.1. Estimated cost £100,000.

#### ROADS, BRIDGES AND SITE WORKS

**Ashton-under-Lyne, Lancs.**—Paving of footpaths at Lordsfields, for B.C.: James A. Cuss, Rochdale, £599 (recommended, subject to Ministry approval).

**Barking, Essex.**—Site works for five flats and 15 garages at North Street, for B.C.: Direct Labour, £1,547.

**Caterham and Warlingham, Surrey.**—Following, for U.D.C.: Surfacing of Carriageways A.22 and B.2208—Amalgamated Roadstone Corporation, Ltd., 15 Stanhope Gate, London, W.1, £4,523 (accepted); The Limmer and Trinidad Lake Asphalt Co., Ltd., £5,233; Neuchatel Asphalte (Contracting), Ltd., £4,710; W. and J. Glossop, Ltd., £4,880; William F. Rees, Ltd., £4,822; Surrey Bituminous Supplies, Ltd., £4,604; Waywarden, Ltd., £4,883; Home Centuries Contracting Co., Ltd., £5,112; The General Asphalte Co., Ltd., £4,793; The Drybrook Quarries, Ltd., £4,731; Tarmac Civil Engineering, Ltd., £4,742; George Wimpey and Co., Ltd., £5,193; Roads Reconstruction (1934), Ltd., £4,887; Allmacadams, Ltd., £5,623; Situsec, Ltd., £6,497; Johnson Bros. (Aylesford), Ltd., £5,534; H. V. Smith and Co., Ltd., £4,768; Sparkes (Construction), Ltd., £4,887.

Resurfacing of footpaths, etc.: Waywarden, Ltd., 215 Forest Road, London, E.17, £2,421 (accepted); Surrey Bituminous Supplies, Ltd., £3,111; Sparkes (Construction), Ltd., £2,849; William F. Rees, Ltd., £2,920; Home Counties Contracting Co., Ltd., £3,791; Conway and Hart, £3,440; Austen Shrivess, Ltd., £2,685; W. H. Gaze and Sons, Ltd., £2,509; Allmacadams, Ltd., £3,042; Mears Bros. (Contractors), Ltd., £2,944.

**Chelmsford, Essex.**—Surfacing of carriageway, footpaths and car park at crematorium site and carriageways at new cattle market, for B.C.: Waywarden, Ltd., 215 Forest Road, London, E.17, £1,629, and Neuchatel Asphalte (Contracting), Co., Ltd., Neuchatel House, Palace Street, London, S.W.1, £1,927.

**Cookham, Berks.**—Construction of tarmacadam footpaths, road resurfacing and ancillary works on Cannon Bridge estate. Cookham Rise, for R.D.C.: C. and R. B. Construction (Southern), Ltd., 111 Armour Road, Tilehurst, Reading, £5,469 (accepted); Herbert Ward and Sons, Ltd., £5,610; The Drybrook Quarries, Ltd., £5,783; Tarmac Civil Engineering, Ltd., £5,831; A. R. Williams, £5,976; Sydney Green and Sons, Ltd., £6,175; Roads Reconstruction, Ltd., £6,374; Soil Engineering and Contracting Co., Ltd., £6,397; Stanley Lucas, Ltd., £7,687. Work commencing March 1.

**Conway, Caerns.**—Reconstruction and widening of Narrow Lane, Llandudno Junction, from its junction with trunk road A.55 to Bryn Derw Farm, for B.C. Works comprise the construction of surface water drains, earthworks, lean concrete carriageway base, dense tar surfacing, footways, kerbing, soiling and seeding verges, and ancillary works: Pochin (Contractors), Ltd., Middlewich, Cheshire, £12,532.

**Ebbw Vale, Mon.**—Burning-off and planing 2,700 sq. yd. of carriageway, laying of 3,530 sq. yd. of hot rolled asphalt 2in. thick and other ancillary works, for U.D.C.: J. M. Davies, engineer and surveyor: Western Trinidad Lake Asphalt Co., Ltd., Asphalt House, St. Mary Street, Cardiff.

**Gateshead, Dur.**—Reconstruction of bridge substructure, reinforced part of superstructure and roadways in connection with a concrete water culvert at Lamesley new marshalling yard, for British Railways: Mitchell Construction Co., Ltd., Peterborough.

**Hemel Hempstead, Herts.**—Paving contracts 13 and 14, for Development Corporation: L. W. Bryant and Co., 12 Park View Gardens, Grays, Essex, £19,881 and £17,382, respectively.

**High Wycombe, Bucks.**—Private street works at Highfield Avenue, for B.C.: The Soil Engineering and Contracting Co., Ltd., Resilency Works, Station Road, Marlow, £11,410 (recommended, in lieu of previous tender).

**Manchester.**—Construction of roads and sewers at Rose Hill, Marple, for City Council: North Western Contracting Co., Park Avenue, Manchester, 12 (recommended).

**Middlesbrough, Yorks.**—Making-up of Westbourne Road back street, for B.C.: T. R. Illingworth and Co., Ltd., 72 Bailey Rise, Peterlee, Durham, £970 (recommended).

**Newbury, Berks.**—Resurfacing two and surface dressing one and fencing tennis courts at Victoria Park, for B.C.: Grassphalte, Ltd., 90 High Street, Hampton Hill, Middx., £715 (recommended).

**Norfolk.**—Construction of Haddiscoe Cut Bridge, road A.143, for C.C. comprising the construction of a three-span steel and concrete bridge about 220ft. long by 37ft. wide, deep piling, approach embankments up to 30ft. in depth and 600yd. long, roadworks, river works, demolition of a bascule bridge and other incidental works. C. J. MacDonald, county surveyor. Tenders received: A. Monk and Co., Ltd., £96,149; Humphreys, Ltd., £98,764; May Gurney and Co., Ltd., £102,875; R. Costain, Ltd., £103,075; J. L. Kier and Co., Ltd., £113,000; Cleveland Bridge and Engineering Co., Ltd., £113,693; Howard Farrow, Ltd., £116,815; J. Wyatt (Junn.), Ltd., £119,188; William Press and Son, Ltd., £119,639; Yorkshire Hennebique Contracting Co., Ltd., £123,083; Mitchell Construction Co., Ltd., £123,197; J. Howard and Co., Ltd., £124,240; W. A. Dawson, Ltd., £125,537; W. and C. French, Ltd., £128,138; Gilbert-Ash, Ltd., £134,176; Sir Lindsay Parkinson and Co., Ltd., £138,621; Holland & Hannen and Cubitts (Great Britain), Ltd., £144,620.

**Northwich, Ches.**—Lifting of the carriageway and footways of Castle Street to a maximum height of 3ft. 6in., including approximately 400 cu. yd. wet mix filling, 1,800 sq. yd. of bituminous macadam surfacing, 700 sq. yd. of flagging, 250 lin. yd. of 5in. by 10in. kerbing and 170 lin. yd. of 15in. diameter concrete tubes, together with all necessary ancillary works, for U.D.C.: J. R. W. Clark, engineer: Thos Ashley (Contractors), Ltd., 314 Chester Road, Hartford, Ches. Work commencing March 1.

**Northwich, Ches.**—Construction of approximately 130 super. yd. tarmacadam surfacing in the form of a turning circle at Nixon Road in the parish of Cuddington, for R.D.C.: S. Hutton and Co., Ltd., Northwich. Work commencing March.

**Reading, Berks.**—Following works, for B.C.: Improvement of a further length of Whitley Wood Road—C. and R.B. Construction (Southern), Ltd., 111 Armour Road, Tilehurst, Reading, £23,464; construction of two tennis courts at Coley Recreation Ground and resurfacing of one existing court at Cintra—Maxwell M. Hart, Ltd., Winkers, Wokingham, £1,615 (recommended).

**Risca, Mon.**—Making-up of three private streets involving the total construction of 7,000 sq. yd. of carriageway, 2,500 sq. yd. of footways, together with incidental roadworks, for U.D.C.: Herbert Avenue—J. F. Dymond, 30 High Street, Newport, £10,824 (accepted); H. Smith (Contractors), Ltd., £11,484; Costello and Kemble, Ltd., £11,709; W. Jerman and Son, Ltd., £11,461; Modern Building (Newport), Ltd., £15,431; Davies, Middleton and Davies, £11,096.

Tredegar Street and Tredegar Terrace—Costello and Kemble, Ltd., 44 Alstone Road, Cheltenham, Glos., £6,743 (accepted); W. Jerman and Son, Ltd., £7,041; J. F. Dymond (Contractors), £6,862; Modern Building (Newport), Ltd., £9,541; H. Smith (Contractors), Ltd., £7,253; Wm. Adams and Co., £7,401.

**Selkirk.**—Construction at Bannerfield housing site of 180 lin. yd. of roadway, 280 lin. yd. of 6in. diameter sewer and 240 lin. yd. of 4in. diameter spun-iron water main, together with all incidental and relative works, for B.C.: Crouch and Hogg, engineers, 18 Woodside Crescent, Glasgow, C.3; John Smith, The Glebe, Selkirk, £5,923.

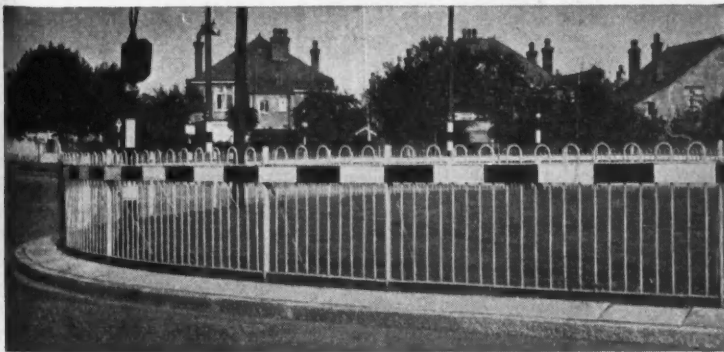
**Sunderland, Dur.**—Construction of roads and sewers in the Wear Street and Woodbine Street redevelopment area, for B.C. T. Donkin, borough engineer: Edwin Clarkson, Ltd., East Boldon, Co. Durham, £20,725.

**Walsall, Staffs.**—Replacement of the existing footway access to Irvine Close by a roadway, for B.C.: Direct Labour (recommended, subject to Ministry approval). Estimated cost £730.

**Wednesbury, Staffs.**—Resurfacing of the footpath in Manor House Road from Trowse Lane to Hall End, for B.C.: Val de Travers Asphalte, Ltd., 5 Lower Temple Street, Birmingham, 2.

**Wednesfield, Staffs.**—Improvement of Ridge Lane, for U.D.C., comprising approximately 420 lin. yd. of kerbing, 1,060 sq. yd. of bitumen macadam footways, 1,745 sq. yd. of tarmacadam carriageways, five class B electric lighting units and other incidental works. Thos. A. Peacock, engineer and surveyor: Ward Birks and Co., Ltd., 66 Wolverhampton Road West, Bentley, near Walsall, Staffs. Work commencing March.

**Whitehaven, Cumb.**—Preliminary site works for flats in George Street, for B.C.: Border Engineering Contractors, Ltd., 134 Queen Street, Whitehaven, £1,380.



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**SEWERAGE, SEWAGE AND REFUSE DISPOSAL**

**Ashton-under-Lyne, Lancs.**—Reconstruction of engine house at Dukinfield sewage disposal works, for B.C.: Fram Reinforced Concrete Co., Ltd., 165 Plymouth Grove, Manchester, 13, £1,113 (recommended).

**Beverley, Yorks.**—Construction of approximately 100yd. of 15in. diameter concrete sewer and two manholes at Common Lane and Boothferry Road, Welton, for R.D.C. G. Palfreyman, engineer and surveyor: J. J. Boyce, 9 Rydal Grove, Eppleworth Road, Cottingham.

**Bradford and Melksham, Wilts.**—Semington Road sewerage scheme, Melksham, for R.D.C., involving laying of some 510yd. of 6in. diameter and 440yd. of 9in. diameter stoneware pipe, and construction of 13 pre-cast concrete manholes, and house drainage connections. The construction of an ejector station and laying of 330yd. of 4in. diameter spun-iron rising main. J. M. Boswell, engineer and surveyor: Floyd Agar and Co., Ltd., Church Street, Sherston, Malmesbury, Wilts., £7,774.

**Bradford, Yorks.**—Construction of sewers to provide drainage from 52 houses in Brig-house and Denholme Road, and from Mountain Eagle Inn, Mountain, and construction of a 36in. diameter concrete pipe culvert and a 9in. diameter pipe to prevent flooding at the junction of Canal Road and Station Road, etc., for City Council: Direct Labour, £3,900 and £6,560, respectively (recommended).

**Cockermouth, Cumb.**—Sewerage and sewage disposal scheme and surface water scheme at Winscales, for the R.D.C.: E. Watson, surveyor: Border Engineering Contractors, Ltd., Queen Street, Whitehaven, £9,878.

**Driffield, Yorks.**—Sewerage scheme for Little Driffield, for U.D.C.: Sangwin, Ltd., Sulcoates Lane, Hull, £9,904 (subject to Ministry approval).

**Eston, Yorks.**—Construction of trunk sewer—Church Lane extension, subsidiary foul and surface water sewers and appurtenant subsoil drainage, for U.D.C.: N. C. Harrison, engineer and surveyor, 246 Normanby Road, South Bank, Middlesbrough: T. R. Illingworth and Co., Ltd., 72

Bailey Rise, Peterlee, Horden, Co. Durham, £22,678 (accepted); Crowley Russell and Co., Ltd., £29,023; Ideal Builders, £32,458; Mactrac, Ltd., £24,917; Tarslag, Ltd., £27,793; Rama Construction Co., £30,188; J. W. Pearson and Co., Ltd., £35,012. Work commencing late March.

**Goole, Yorks.**—Sewerage and sewage disposal scheme extension at Hook, for R.D.C.: Sangwin, Ltd., Dansom Lane, Hull, £683 (accepted provisionally).

**Holyhead, Anglesey.**—Laying about 3,000yd. of 6in. and 9in. diameter concrete sewers, 1,000yd. of 8in. diameter spun-iron pipe, including sea outfall, and the construction of a pumping station and manholes, for West Holyhead Joint Sewerage Committee. Richards and Dumbleton, civil engineers, 45 Newhall Street, Birmingham. 3; D. B. Evans (Bilston), Ltd., Oxford Street, Bilston, Staffs., £31,342 (accepted); Henry Jones and Sons (Rhoseigr), Ltd., £36,961; The Trinidad Lake Asphalt Co. (North Western), Ltd., £42,505; Alrewas Plant Hire, Ltd., £43,326; Land and Marine Contractors, Ltd., £52,863. Work commencing March.

**Kingsclere and Whitchurch, Hants.**—Construction and maintenance of approximately 510yd. of 6in. diameter sewer and manholes, together with 1,280yd. of 8in. diameter spun-iron pumping main, with all other works incidental thereto, in the parish of Whitchurch, contract 1, for R.D.C. Lemon and Blizard, consulting engineers. Hulse Road, Southampton: Southern Counties Construction Co., Ltd., 204 London Road, Waterloo, Portsmouth, £7,896 (accepted); James Cockerell, Ltd., £8,163; Bridgwater Bros., Ltd., £8,235; Tilbury Construction Co., Ltd., £8,290; Sydney Green and Sons, Ltd., £9,280. Work commencing March 10.

**Manchester.**—Granolithic flooring for the primary sludge digestion plant and for the waterproof rendering and granolithic flooring for the secondary sludge treatment plant at Davyhulme sewage disposal works, for City Council: Quickset Water Sealers, Ltd., Bentley Works, Doncaster (recommended).

**Newbury, Berks.**—Construction of the Cold Ash sewerage scheme, for R.D.C.: M. O. Byrd and Co., Goldboro, London Road,

Newbury, £45,000 (in lieu of previous tender).

**Preesall, Lancs.**—Sewerage scheme (contract II), for U.D.C., comprising (1) Pumping station to house three 4in. diameter pumps, (2) 24 lin. yd. cast-iron rising main, 9in. diameter; (3) 94 lin. yd. cast-iron sewer, 15in. diameter; (4) 124 lin. yd. concrete pipe sewer, 15in. diameter; (5) 350 lin. yd. concrete pipe sewer, 9in. diameter; (6) manholes, house connections and miscellaneous alterations to existing ejector stations. S. H. Senior, engineer and surveyor: Warren Construction Co., Ltd., Carnforth, Lancs., £17,174 (subject to Ministry approval).

**Rochdale, Lancs.**—Reconstruction of storm water overflow, Well 't' Lane, for B.C. Wright's Builders, 34 Shawfield Lane, Norden, Rochdale, £1,107.

**Sittingbourne and Milton, Kent.**—Construction of a 9in. diameter foul water sewer approximately 50yd. in length, together with manholes and ancillary works, at Home-wood Avenue/London Road, for U.D.C. A. W. Lloyd, engineer and surveyor: T.H. Contractors, Ltd., Quarry Wood, London Road, Aylesford, Kent, £2,680.

**South Cambridgeshire.**—Melbourn and Mel-dreth sewerage scheme, contract 2, for R.D.C., comprising the construction, testing and maintenance of spun-iron, concrete and glazed stoneware sewers, three pumping stations, asbestos-cement pumping mains, manholes, and all other works incidental thereto. Lemon and Blizard, consulting engineers, 59 Tufton Street, Westminster, S.W.1: Lindum (Lincoln), Ltd., Kempston Road, Bedford, £71,392. Work commencing April 1.

**Sunderland, Dur.**—Construction of 120yd. of 18in. concrete tube sewer with manholes at Ashbrooke Range, for B.C.: T. R. Illingworth and Co., Ltd., Peterlee, £1,676.

**Valley, Anglesey.**—Laying about 900yd. of 6in. diameter stoneware and iron pipe sewers and the construction of sewage treatment works, including sedimentation tanks, bacteria bed, sludge drying beds and other incidental works at Llanfaethlu, Anglesey, for R.D.C. Richards and Dumble-

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ton, civil engineers, 45 Newhall Street, Birmingham, 3, and Greenways, Portmadoc: Henry Jones and Sons (Rhoseigr), Ltd., Beach Road, Rhoseigr, Anglesey, £9,355 (recommended); R. J. Burr, £10,417; D. B. Evans (Bilston), Ltd., £10,281; Williams and Jones (Builders), Ltd., £11,385. Probable date of commencement May 1, 1960.

### STREET LIGHTING

**Basildon, Essex.**—Supply and erection of 61 class A sodium discharge lamps on concrete columns in Southend Road, Wickford, and 69 class A sodium discharge lamps on steel columns in Stock Road, Billericay, for U.D.C. S. A. Wadsworth, engineer and surveyor: Atlas Lighting, Ltd., Thorn House, Upper St. Martin's Lane, London, W.C.2, £5,329. Work commencing Feb. 29.

**Bedford.**—Supply of the following, for B.C.: Lanterns and columns for Eastcotts Road, Mile Road and Cardington Road—A.E.I. Lighting Co., Ltd., 132 Long Acre, London, W.C.2, £2,018, and Stanton Ironworks Co., Ltd., near Nottingham, £1,683, respectively; lanterns and columns for various roads—Engineering and Lighting Equipment Co., Ltd., Sphere Works, St. Albans, Herts., £4,081, and Stewarts and Lloyds, Ltd., Winchester House, Old Broad Street, London, E.C.2, £2,986, respectively (recommended).

**Darlington, Dur.**—Supply of following, for B.C.: Cast-iron street lighting columns—Revo Electric Co., Tipton, £2,136; lanterns—Associated Electrical Industries, Ltd., London, £1,342.

**Middlesbrough, Yorks.**—Supply of 55 200-W lanterns and control gear and 55 columns and brackets (as manufactured by Dorman Long and Co., Ltd.), for B.C.: General Electric Co., Ltd., Magnet House, Corporation Road, Middlesbrough, £2,794 (recommended).

**Warsop, Notts.**—Street lighting, contract IV—supply and erection of 22 group A columns complete, for U.D.C.: Abacus Engineering, Ltd., Russell Chambers, King Street, Nottingham.

### GOVERNMENT CONTRACTS

**Admiralty.**—Particulars of contracts over £1,000 in value placed by Navy Works Department:

Warwickshire: internal painting—T. E. Cundy and Son, Ltd., Leicester.

Hampshire: structural steelwork—Walker Bros., Ltd., London, S.W.1; fencing—Dura-fencing (London), Ltd., Southampton.

Londonderry: construction of jetty—The Cementation Co., Ltd., Belfast.

**Air Ministry.**—Contracts to the value of £500 or over for the week ended Feb. 12:

Building work: Nocton Hall, Lincs.—William Wright and Son (Lincoln), Ltd., Park Street, Lincoln; Watford, Herts.—Kyle Stewart (Contractors), Ltd., Ardshiel House, Empire Way, Wembley, Middx.; Wittering, Northants—Robert Marriott, Ltd., Midland Works, Rushden, Northants; Watton, Norfolk—Walter Lawrence and Son, Ltd., Ventnor House, London Street, Swaffham, Norfolk; Wattisham, Suffolk—Sadler and Sons, P.O. Box 15, Richmond Road, Ipswich, Suffolk; Fittingley, Yorks.—Charles R. Price, Barnsley Road, Doncaster, Yorks.

Construction of sewage treatment plant: Alconbury, Hunts.—M. and F. O. Foster, Ltd., York Road, Hitchin, Herts.

Road and paving construction: Chick-sands, Beds.—Kettler and Heron, Ltd., Cliftonville, Northampton.

**Ministry of Works.**—Contracts placed for week ended Feb. 6:

Cambridgeshire: Ministry of Agriculture, Fisheries and Food, Cambridge—conversion of offices into laboratories—Johnson and Bailey, Ltd., 51 Norfolk Street, Cambridge; block A, Brooklands Avenue, Cambridge—office cleaning—A. J. Howard, Office Cleaning (Cambridge), 89 Lovell Road, Cambridge; Post Office, Long Road, Cambridge—erection of a zone switching centre—William Sindall, Ltd., 347 Cherry Hinton Road, Cambridge.

Cheshire: Post Office Telephone Manager's Office, Chester—erection—Pochin (Contractors), Ltd., King Street Works, Middleswich.

Essex: Telephone Exchange, Stanford-le-Hope—erection—Bavis Partners, Ltd., 45 Queens Road, Brentwood.

Hampshire: Head Post Office, Bournemouth—installation of oil-fired boilers—Lanckaster and Sons, Ltd., Holyrood Works, Southampton; Automatic Telephone Exchange, Bishops Waltham—erection—G. S. Hallum and Sons, Ltd., 9 Carlton Crescent, Southampton.

Hertfordshire: Department of Scientific and Industrial Research, Stevenage—erection of new laboratory block, etc.—Ekins and Co., Ltd., Builders, Great Northern Works, Hertford.

London: Natural History Museum, South Kensington—erection of staircase, etc.—Walker, Clinging and Co., 16 Perry Hill, Catford, S.E.6; Kew and Hampton Court Areas, London District—supply and delivery of sand, etc.—

Henry Boyer, Ltd., Terminus Wharf, Paddington, W.2; Royal Courts of Justice, Strand—renewal of mosaic flooring—Ventor Terrazzo and Mosaic Co., Ltd., 156-158 Fairfax Road, Green Lanes, N.8; General Post Office, St. Martin's-le-Grand, E.C.1—builders' work, renewal of lift—Clemens Bros., Ltd., 77 Derby Road, Forest Gate, E.7; Regional Cable Workshops, Leather Market Street, S.E.1—concrete access road, etc.—John Mowlem and Co., Ltd., 91 Ebury Bridge Road, S.W.1.

Norfolk: Telephone Exchange, Thorpe, Norwich: extension—J. Youngs and Son, Ltd., City Road Works, Norwich.

Somerset: Central Telephone Exchange, Bristol—internal decorations—C. A. Haynes and Sons, Stork House, Hotwells.

Warwickshire Post Office, Greyfriars Lane, Coventry—adaptations for expansion of sorting office—Whiteman and Son, Ltd., 73-87 Foleshill Road, Coventry.

**Post Office.**—Contracts for duct laying, etc., works to the value of £500 and over placed during the week ended Feb. 13:


Herbert Ashley, Sheepbridge Lane, Mansfield, Notts.; The Baillie Contracting Co., Ltd., 2061 Coventry Road, Sheldon, Birmingham, 26; J. E. Billings and Co., Ltd., 54 Beddington Lane, Croydon, Surrey; P. J. Byrnes, 168 St. Michaels Hill, Corham, Bristol, 2; C.D.L. Construction Co., Ltd., Church Road, Egham, Surrey; Christie and Co. (Contractors), Ltd., Raemoir Road, Banbury, Kincardines; Richard Costain, Ltd., 111 Westminster Bridge Road, London, S.E.1; The Eden Construction Co., Ltd., English Damside, Carlisle, Cumb.; A. E. Farr, Ltd., Station Road, Westbury, Wilts.; Edmund Gill, Ltd., 24 Ravenscroft Park, High Barnet, Herts.; George H. Graham (Contractors), Ltd., District Bank Chambers, Market Street, Huddersfield, Yorks.; Jennings and Geary (Contractors), 10 Fortfield Road, Knowle, Bristol, 4; The Lenton Civil Engineering Co., 38 Cromwell Road, Beeston, Nottingham; McNicholas Construction Co., Ltd., 31a Cricklewood Broadway, London, N.W.2; E. W. Moulson and Sons, Ltd., Forrester's Yard, High Street, Wibsey, Bradford, 6, Yorks.; T. Muckle and Sons, Ltd., Bridge Street, Rothbury, Morpeth, Northumb.; J. Murphy and Sons, Ltd., 43 Charteris Road, Finsbury Park, London, N.4; The North Midland Construction Co., Ltd., Portland Works, Daybrook, Nottingham; The Norwest Construction Co., Ltd., Litherland, Liverpool, 21; William Pollitt and Co., Ltd., Pool Street, St. Georges Road, Bolton, Lancs.; O. C. Summers, Ltd., 109-113 York Way, Camden Road, London, N.7; Worthingtons Contractors, Ltd., 81 Shaw Street, Liverpool, 6.

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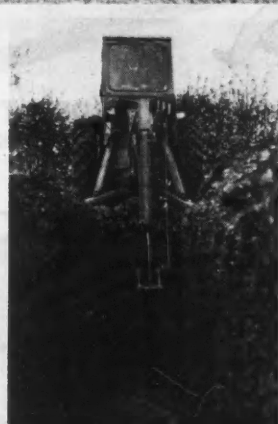
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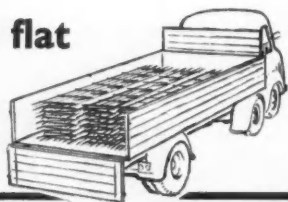
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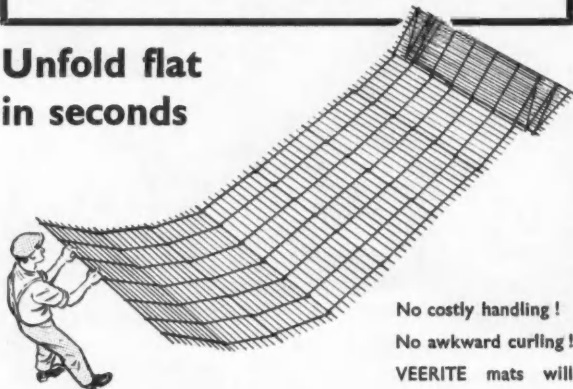
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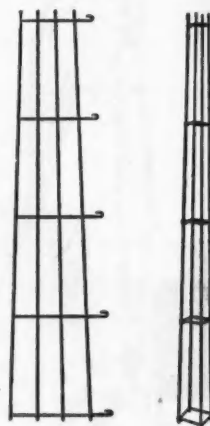
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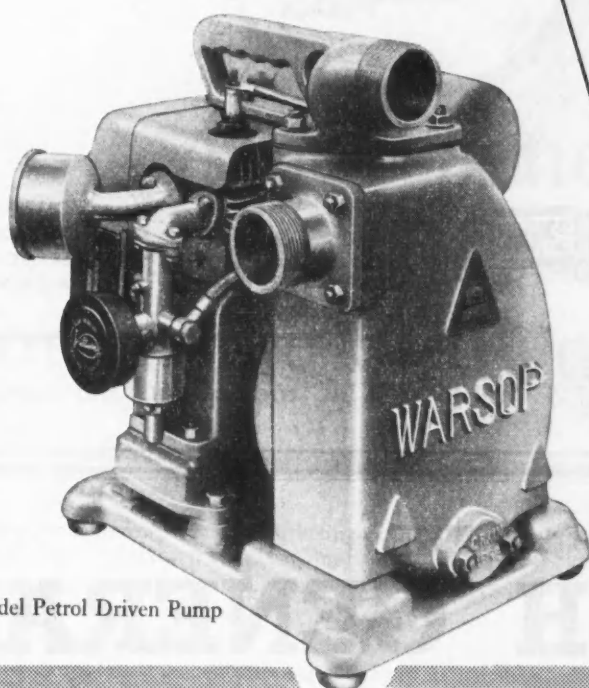
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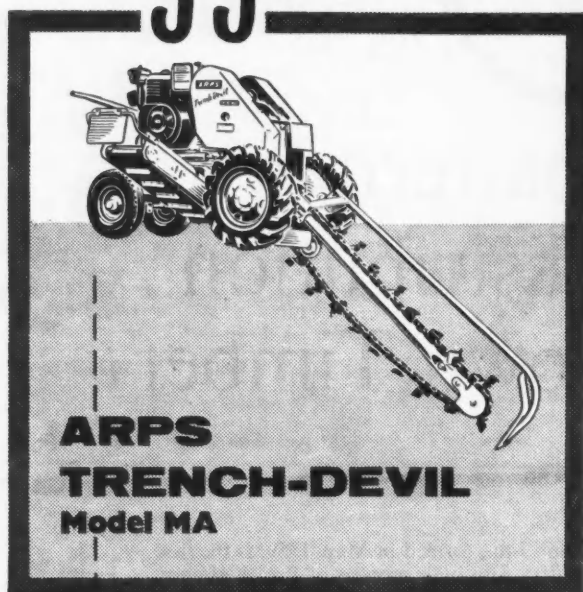
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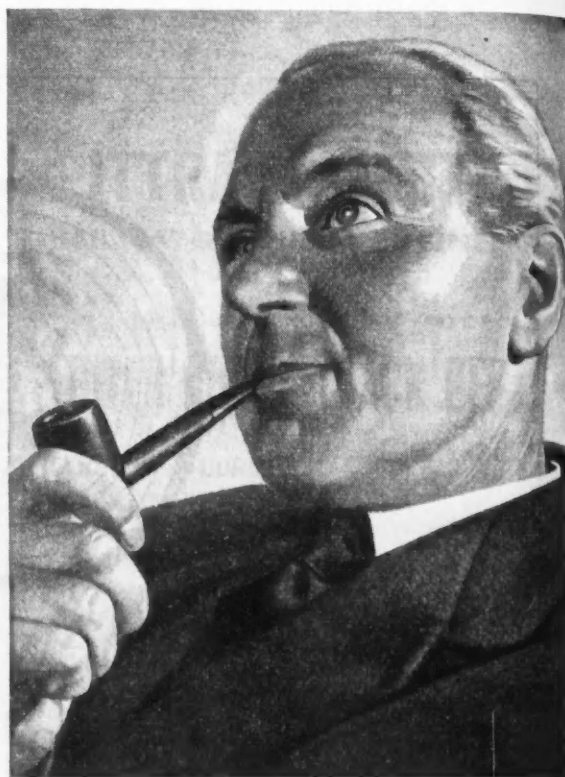


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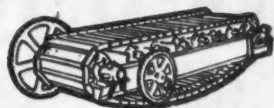
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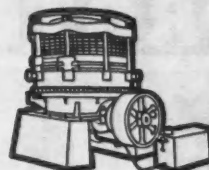
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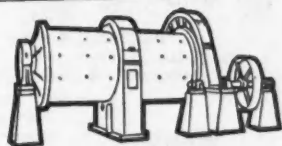
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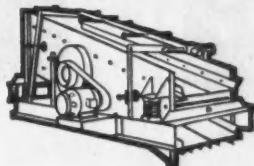
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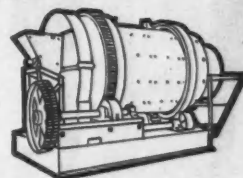
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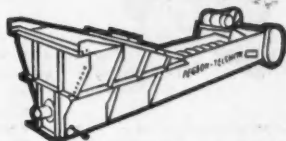
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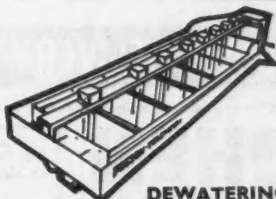
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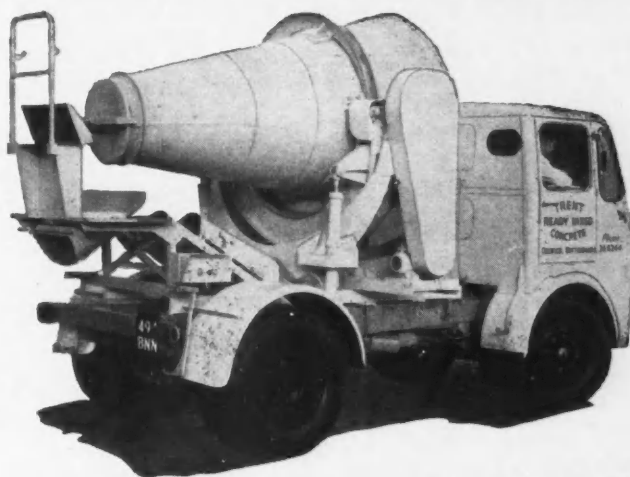
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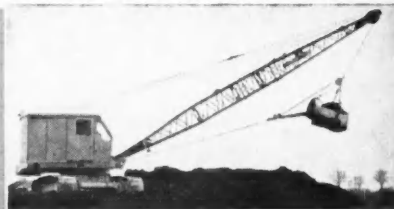


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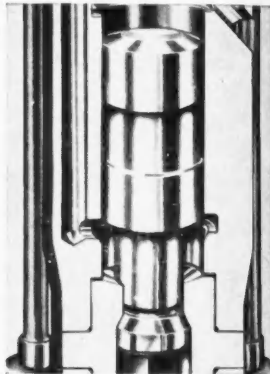
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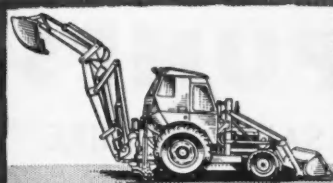
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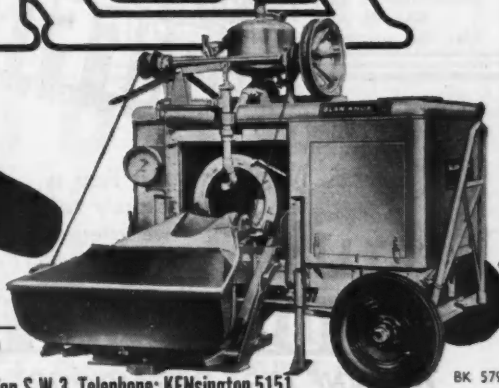
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**FOR SALE**, Two Blaw Knox 2yd. TRUCK MIXERS, mounted on Bedford 7-ton chassis, new 1957, good condition.—Write Box P.1268, "The Contract Journal."

**WANTED TO BUY** 12/21 Allen-Parsons TRENCHER, in good order.—METAL UNION (PLANT), LTD., 75 Victoria Street, S.W.1. VICTORIA 4868.

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Caterpillar D4, D6, D7 and D8 TRACTORS, with Dozers and Scrapers.  
 10RB, 19RB and 22RB EXCAVATORS, with usual equipments.  
 5-ton, 10-ton, 15-ton and 20-ton CRANES.  
 1/4 cu. yd. EXCAVATORS, rigged as Cranes, Jibs 35ft./70ft., power boom lowering.  
 Caterpillar TRAXCAVATORS, with 1 1/4 cu. yd. Shovels, Rippers and Dozer Blade.  
 Allis-Chalmers HD5G TRACTO-SHOVELS, 1 cu. yd. capacity.  
 International Drott TRACTO-SHOVELS, with 4-in-1 equipments.  
 J.C.B. HYDRA-DIGGAS, with 18in.-24in. Buckets, Loading Shovels and Square Hole Attachment.  
 5/3 1/2, 7/5, 10/7 and 14/10 CONCRETE MIXERS, Petrol or Diesel.  
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 12, 14 and 1 1/2 cu. yd. Benford DUMPSERS.  
 50cwt.—8/10-ton Diesel ROAD ROLLERS.  
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 5/10cwt. Ace HOISTS, 60ft. Masts.  
 Chinook HEATERS, Petrol and Electric.  
 2-Tool PORTABLE COMPRESSORS.  
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The following Plant is required, in any condition. Those replying to this advertisement should state the year and condition and price required, and where available for inspection.  
 Hand-operated Vibratory ROAD ROLLER, 6 1/2cwt., as Stobert and Pitt Vibrol.  
 2-tool Diesel COMPRESSOR.  
 3in. Diaphragm PUMP, Diesel- or Petrol-driven.  
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**ONE LIMA 1201 FORWARD SHOVEL** EQUIPMENT, the bucket of which has never been used, is available for SALE.

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**WANTED TO PURCHASE** by small contractor, TRAXCAVATOR HT4, 955 or HD5.—Write Box P.1240, "The Contract Journal."

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Caterpillar D7M, with La Plant Chasidie Hydraulic Angledozer Equipment and P.C.U. Choice of two machines, both recently overhauled. Price from £2,500.  
 International TD9 TRACTORS, base machines, or with Angledozer Equipments. Price from £450 each.  
 Fiat 55L TRACTORS, with Hydraulic Angledozer Equipment, in really first-class condition and ready for immediate work. From £950.  
 19RB EXCAVATORS, with Dragline Equipment. Choice of two. Can be seen working locally. Price from £1,250.  
 International TD9 Hydraulic High Lift SHOVEL, very little used and in absolutely first-class condition. Price £1,600.  
**BANNISTER AND AUGER, LTD.**,  
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Coles-Thornycroft 5-ton Rope Derricking CRANE, on short-wheelbase 6 x 4 chassis, unused since complete reconditioning for Air Ministry. Coles 3-ton, mounted on Austin 6 x 4 chassis, fitted Perkins Diesel Engine, perfect condition.  
 Barber-Greene 44C DITCHER, fitted new Albion Diesel Engine, complete machine, in excellent condition. All machines ex stock. Full details and photographs on request. Inspection invited.

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**PLANT for HIRE**: 6in. Blaw Knox CONCRETE PUMP, in first-class order, complete with necessary piping, etc.; 20 and 80 Zenith PILE EXTRACTORS; Nos. 2, 3, 5 and 7 McKiernan-Terry PILING HAMMERS; No. 16 Spencer-Hopwood BOILERS, etc.—All available from A. JACKAMAN AND SON, LTD., Molly Millar's Lane, Wokingham, Berkshire. Tel.: Wokingham 1014.

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Several for Sale

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Compressors 2 to 12 Tools.  
 Vibrating Rollers, Crane Skips.  
 Platform Hoists, Scaffold Jib Cranes.  
 Concrete Mixers, 4/3 to 14/10 cu. ft.  
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Two Wild Fawcett Rail-mounted TOWER SLEWING CRANES, manufactured in 1953, with 42ft. 6in. Jib.

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Two A.C.E. HOISTS, 30cwt. capacity, able to lift to height of 100ft.

One additional spare WINCH as incorporated with the A.C.E. Hoists.

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Two 167 c.f.m. Broomwade COMPRESSORS.

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50 Tracked TOWING AMBULANCES.

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Our Fleet is entirely Lorry Mounted we offer a country-wide service. Jib lengths to 120 ft. all capacities up to 25 tons.

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**WINGET 14/10 10T MIXER**, new 1955, Lister Diesel, Dragshovel. Very good condition, £375.  
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**LOW-LOADING TRAILERS**, 3, 5/6 and 8/10 ton, ex Ministry. Also TRAILER-MOUNTED TANKS, 200, 500 and 750 gallons.  
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**AYELING-BARFORD 2 1/2 3-TON ROLLER**, Petter Engine, sprinklers. Good condition, £400.  
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**385 tons FRODINGHAM 4 PILING** in 30/58ft. lengths, once driven.  
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**FOR A COMPREHENSIVE LIST OF PLANT FOR SALE AND HIRE—SEND FOR VALES FREE PLANT REGISTER.**  
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**FOR SALE:** New 8cwt. Greens Griffin Vibratory ROLLERS. Immediate delivery from stock—WILLIAM G. SEARCH, LTD., Whitehall Road, Leeds, 12. Tel. 639081 (10 lines).

**FOR IMMEDIATE HIRE:**  
**KL44 MOBILE CRANES**, pneumatics, jibs up to 50ft. **DUDLEY VALE, LTD.**, 3 Buckingham Place, London, S.W.1. Tel.: VIC. 0252.

**FOR SALE:** Rapier 6-ton Super Petrol/Electric MOBILE CRANE. Diesel conversion available. **WILLIAM G. SEARCH, LTD.**, Whitehall Road, Leeds, 12. Tel. 639081 (10 lines).

**ALL BUILDERS' PLANT FOR HIRE** at competitive prices. Including 1,000 Scaffold Boards. Immediate delivery.—**M. SANDERS, LTD.**, 19/20 Medlar Street, London, S.E.5. Tel.: RODNEY 5143.

**FOR SALE:** Priestman Wolf EXCAVATOR, No. A5969, with Skimmer and Backacter Equipment also 18in. Norton Bucket.—**G. H. WATKINS**, Crown East, Worcester.

**AVAILABLE FOR HIRE AND CONTRACT:** D9 and D8 TRACTORS, with Blade or Scraper.—**ELLIOTT**, Wetherby Road, York. Telephone: 78220 and 78501.

**WANTED:** Priestman Cub or Wolf Dragline EXCAVATOR, must be in good condition. Details to Box P.1248, "The Contract Journal."

**FOR SALE** Two Fowler Challenger III Tractors with P.C.U.'s "as is"—£240 each.

**THOMAS BOW**, Lamartine Street, Nottingham. Tel: 51701 (3 lines).

OL STEAM OR PETROL ENGINE	CONCRETE MIXERS	ELECTRIC OR BELT DRIVE
<b>MORTAR MILLS</b>		
BELPER	SMEDLEY BROS LTD	DERBYS

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**SILVER KNIGHT 4-berth CARAVANS**, 15ft. 6in. long x 6ft. 9in. wide, height 6ft. 6in., all necessary fittings, little used and in perfect condition.  
**JOHNSON Type MA 36ft. Centres PORTABLE CONVEYOR**, 24in. Belt. Diesel Engine, pneumatic road wheels, little used, new 1958.  
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**NEALS NM 2-Ton MOBILE CRANE**, 25ft. Straight Lattice Jib and 10ft. Insert, Ruston 2VTO Diesel Engine, pneumatic tyres, very good condition, new 1943.  
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**MICHIGAN C18 1 1/2 cu. yd. EXCAVATOR**, rigged as crane, 45ft. Jib and new Wylie Visual and Audible Indicator, G.M. Diesel Engine, very good condition, new 1947.  
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**MORGAN 10-ton Electric Derrick CRANE**, 120ft. Jib, 2-motor type, set of three Dumb Boggles, very good condition, new late 1954.  
**MORGAN 1954 Electric Derrick CRANE**, 120ft. Jib, not worked since April, 1959, well maintained, new 1956.  
**SMITH 3-Ton Steam Loco. CRANES**, 35ft. or 40ft. jibs, Single Drum machines, 4ft. 6in. gauge, completely reconditioned, really first-class condition.  
**STOTHARD AND PITT 30cwt. PORTAL CRANE**, 450/3/50 Electric, very little used, new 1955.  
**10RB 3/4 cu. yd. EXCAVATOR**, Skimmer and Backacter Equipments, 18in. and 30in. Buckets, Ruston 3YCEN Diesel Engine, excellent condition, new 1958.  
**19RB 3/4 cu. yd. EXCAVATOR**, Dragline, Skimmer and Backacter Equipments, Ruston Diesel Engine, good working order, new 1951.  
 Approx. 6,000ft. cube of **BALUK TIMBERS**, 12in. x 12in., 10in. x 6in., 10in. x 10in., 9in. x 9in. First-class condition.  
**ACROW FLOOR CENTRES**, Nos. 1, 2, 3 and 4. Acid tank cleaned and in really first-class condition.  
**THWAITES 1 1/2 cu. yd. DUMPERS**, Petter AVA2 Diesel Engines, pneumatic tyres. Very good condition, new 1956.  
**J.C.B. DIGGER**, 24in. Bucket and Forward Shovel, mounted Fordson Major Tractor, Mark 1 Series. New 1958.  
**WINGET 14/10 cu. ft. 2. CONCRETE MIXERS**, Models 10NT, Petter AVA2 Diesel Engines. Very good condition, new 1956.  
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**WINGET-PARSONS 22T TRENCHER**, 16in. and 24in. Bucket Lines, Dorman 4DWD Diesel Engine. First-class condition, very little used. New 1950.  
**EXCAVATOR EQUIPMENTS**, CRANE JIBS and SECTIONS, or FABRICATED TO ORDER, LONDON DEPOT.

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 Two Bellis and Morcom 2,450 c.f.m., 100 p.s.i. 550-h.p. motor, Broomwade 500 c.f.m., EH251; 400 c.f.m., EH245; 300 c.f.m., EH240; 150 c.f.m., D22A; 100 c.f.m., EP660; also numerous others of all makes; and AIR RECEIVERS from 1ft. to 9ft. dia., 100lb. to 1,000lb., w.p.

**FRED WATKINS (ENGINEERING), LTD.**, Coleford, Glos. Phone: Coleford 2271/2.

**FOR SALE:** 20-ton SUPERSILO, purchased from Blaw Knox, Ltd. In June, 1959, machine has worked for three months and offered for quick clearance at £475.—Write Box P.1293, "The Contract Journal."

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**FOR SALE:** Rapier 6-ton Super Petrol/Electric MOBILE CRANE. Diesel conversion available. **WILLIAM G. SEARCH, LTD.**, Whitehall Road, Leeds, 12. Tel. 639081 (10 lines).

**ALL BUILDERS' PLANT FOR HIRE** at competitive prices. Including 1,000 Scaffold Boards. Immediate delivery.—**M. SANDERS, LTD.**, 19/20 Medlar Street, London, S.E.5. Tel.: RODNEY 5143.

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**FOR SALE** Two Fowler Challenger III Tractors with P.C.U.'s "as is"—£240 each.

**THOMAS BOW**, Lamartine Street, Nottingham. Tel: 51701 (3 lines).

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<b>MORTAR MILLS</b>		
BELPER	SMEDLEY BROS LTD	DERBYS

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**OP.208.—19RB EXCAVATOR**, 14000 Series, Dragline or Skimmer/Backacter Equipment, £2,600.  
**OP.205.—22RB EXCAVATOR**, 19800 Series, F/S Equipment, very good condition, £3,550.  
**E.1052.—24RB EXCAVATOR**, 17000 Series, Dragline Equipment, £3,200.  
**E.1085.—37RB EXCAVATOR**, 7300 Series, Dragline Equipment, very good condition, £3,000.  
**OP.201.—NCK304 EXCAVATOR**, 1025 Series, fully rigged for crane work, 70ft. Jib, Power Boom lowering, 10-ton Hook Block, full set Weights, powered by Thornycroft NRE Diesel Engine, very good condition, £2,400.  
**E.1089.—43RB EXCAVATOR**, 19000 Series, F/S Equipment, very good order, £7,200.  
**E.994.—38RB EXCAVATOR**, 22000 Series, long and wide tracks, 60ft. Dragline Equipment, 1 1/2 cu. yd. Bucket, worked less than 12 months, excellent condition, £11,200.  
**E.828.—NCK304 EXCAVATOR**, Dragline Equipment, A.E.C. Diesel Engine, £2,450.  
**OP.199.—19RB, Skimmer/Backacter Equipment**, £275.  
**C.892.—Smith 7-ton Steam Loco. CRANE**, 50ft. Jib, 4ft. 8in. and 7ft. gauge, £750.  
**C.891.—Buildmaster TOWER CRANE**, Model BDK150, new 1954, 2 1/2-ton max. capacity, 103ft. height of lift, first-class condition, £1,150.  
**A.603.—Broomwade SVD1 110 c.f.m. Diesel COMPRESSOR**, £345.  
**A.604.—Broomwade SVD3 250 c.f.m. Diesel COMPRESSOR**, £550.  
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**P.47.—Several 4in. and 6in. Diaphragm and Centrifugal PUMPS**, Diesel, very good condition. Price on application.  
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**TE.461.—Sheepfoot ROLLER**, Double Drum, £275.  
**D.129.—Two Thwaites 1 cu. yd. DUMPERS**, £198 each.  
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**C.839.—10-ton Anderson-Grice Steam DERRICK**, 120ft. Jib, £2,800.  
**C.889.—10-ton Butters Steam DERRICK CRANE**, 120ft. Jib, new in 1956, excellent order, £5,350.  
**OP.148.—7/10cwt. Double Barrow Wickham HOISTS**, 22ft. Mast, Mobile £95 each.  
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**D.125.—Four Euclid Model 27FD Rear DUMP TRUCKS**, with Cummins Engines, £1,825 each. A number of Tower Cranes available, various makes and models to cover a comprehensive range.  
**GRAYSTON PLANT & ENGINEERING CO., LTD.**, 32 Stewart Road, London, S.W.8. Tel.: Macaulay 6688 (10 lines).

**FOR SALE:** 10 Stothard and Pitt 10/7 Petrol-engined CONCRETE MIXERS, in excellent condition, ex Admiralty, £75 each.—**L. W. VASS, LTD.**, Amphil, Bedford. Telephone: Amphil 325.

**WANTED:** PONTOONS, ex W.D., suitable for mounting small Crane. State price, condition, and where lying.—Write Box P.1214, "The Contract Journal."

**DROTT SKID SHOVEL STD6**, fitted with Boughton Winch, for hire at lowest rate. — **JAMES COOPER, LTD.**, 8 Kensington Church Street, London, W.8. Tel.: Western 3412.

**FOR HIRE:** 15-ton M.C.K. Lorry-mounted CRANE, 70ft. Main Boom, 15ft. Fly. **S. BUTTERWORTH, LTD.**, Winterton Road, Scunthorpe (2097), Lincs.

**FOR IMMEDIATE HIRE:**  
**KL44 MOBILE CRANES**, pneumatics, jibs up to 50ft. **DUDLEY VALE, LTD.**, 3 Buckingham Place, London, S.W.1. Tel.: VIC. 0252.

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**FOR SALE:** Priestman Wolf EXCAVATOR, No. A5969, with Skimmer and Backacter Equipment also 18in. Norton Bucket.—**G. H. WATKINS**, Crown East, Worcester.

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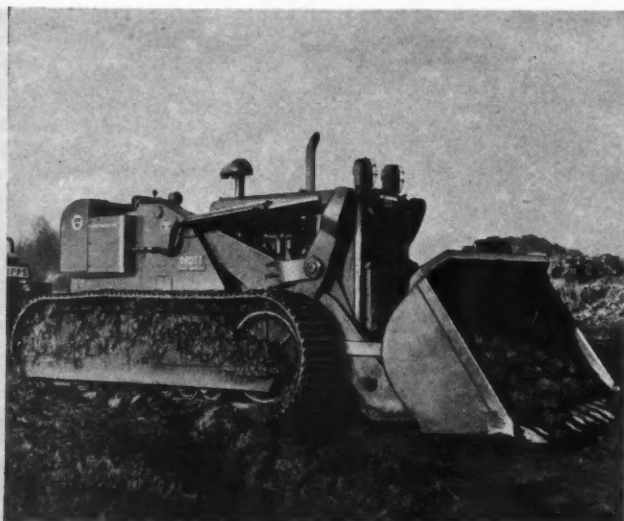
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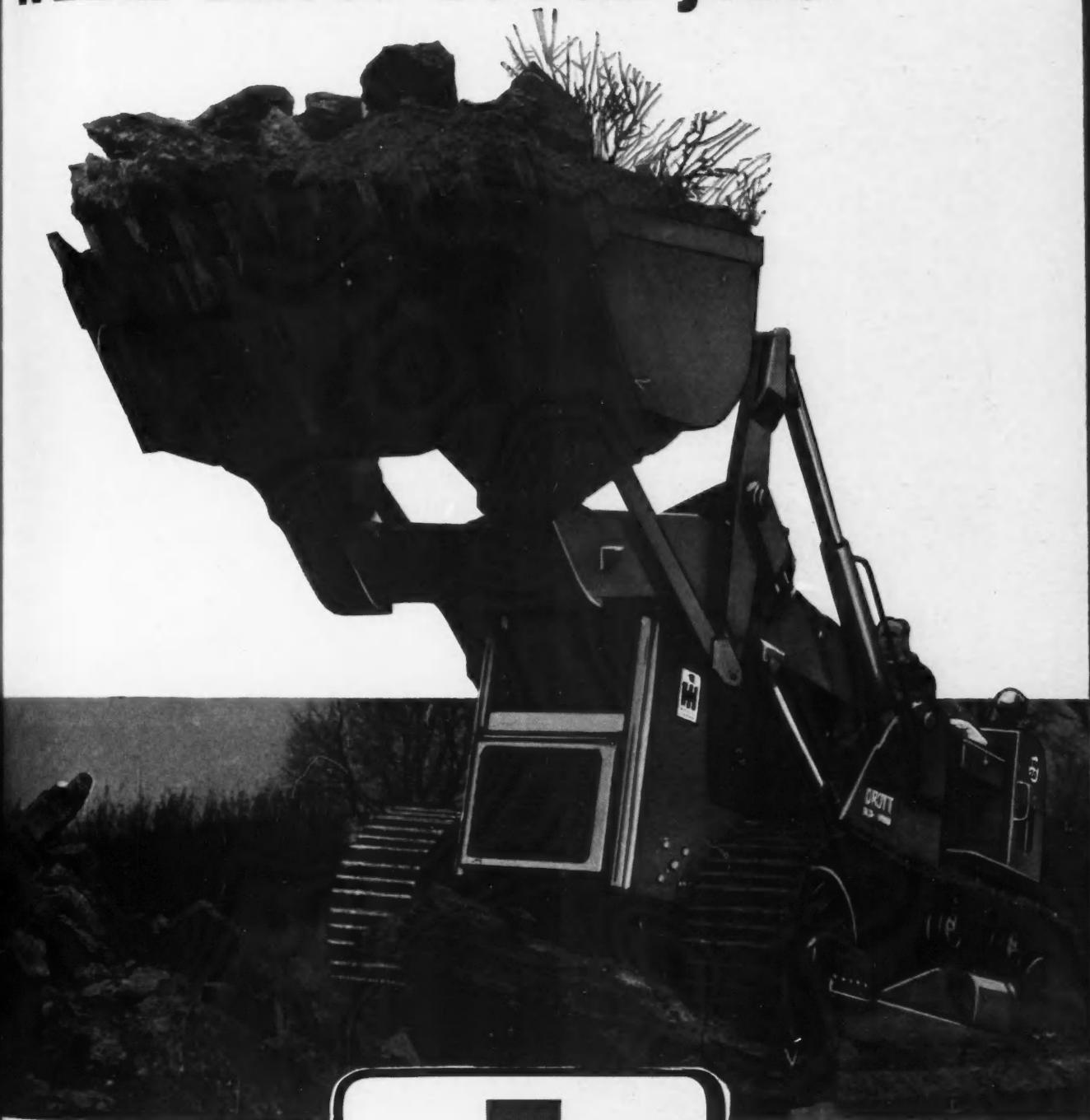
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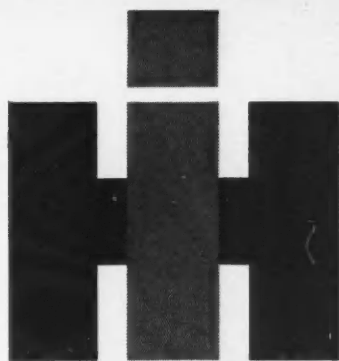
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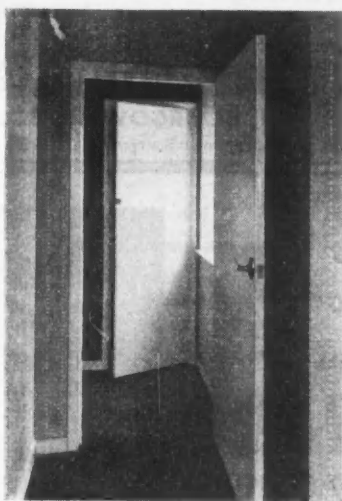
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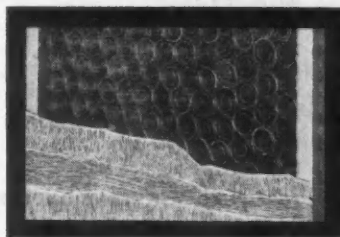
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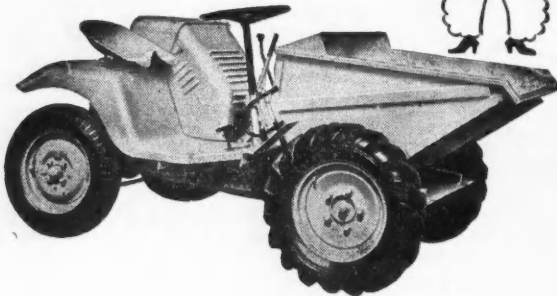
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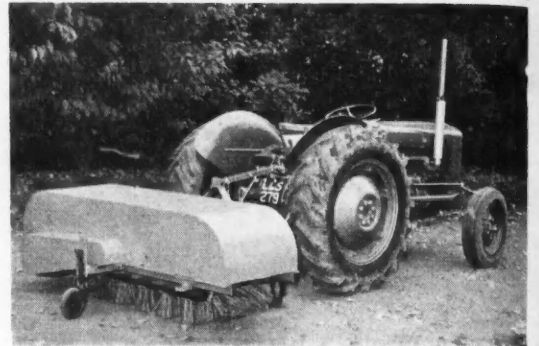
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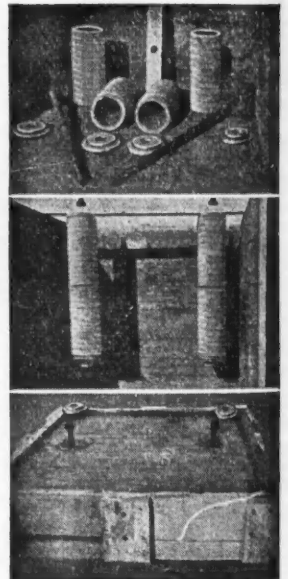
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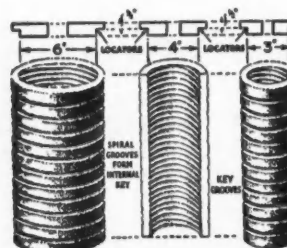


Illustrations show the components before assembly; the bolts fixed, with the box ready for concreting; and the top locators removed showing the bolts central in the box.

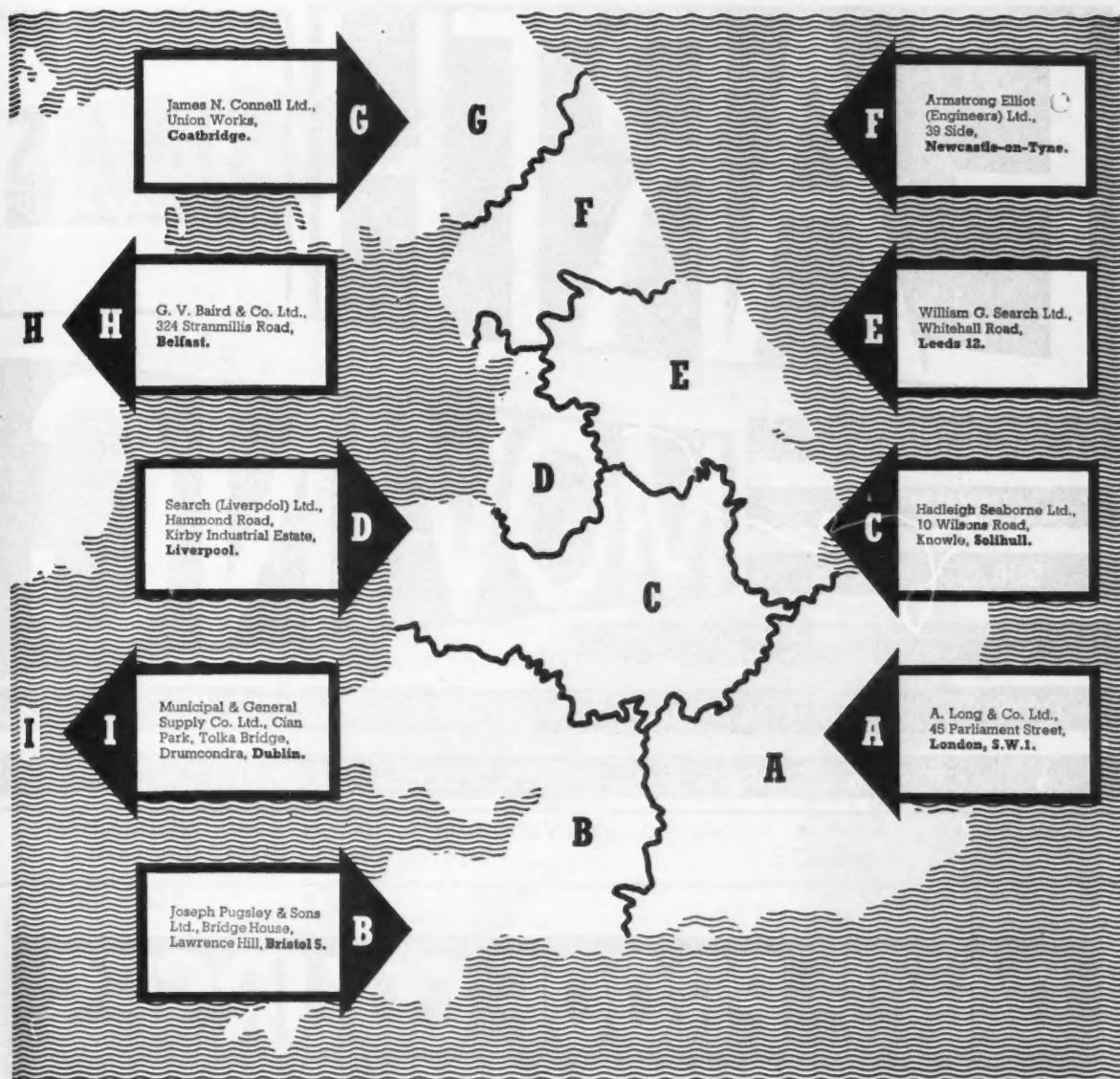
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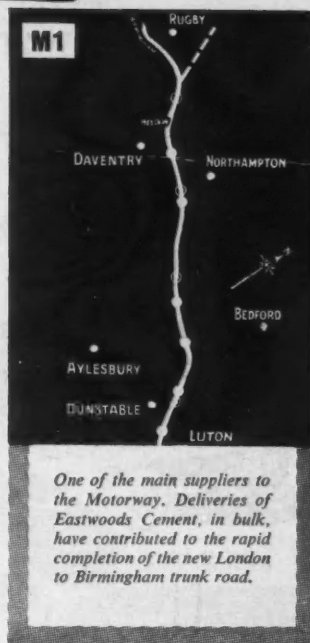
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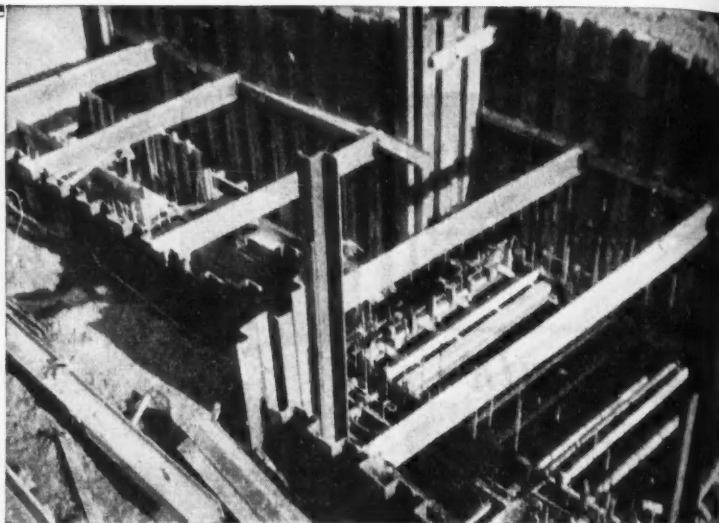
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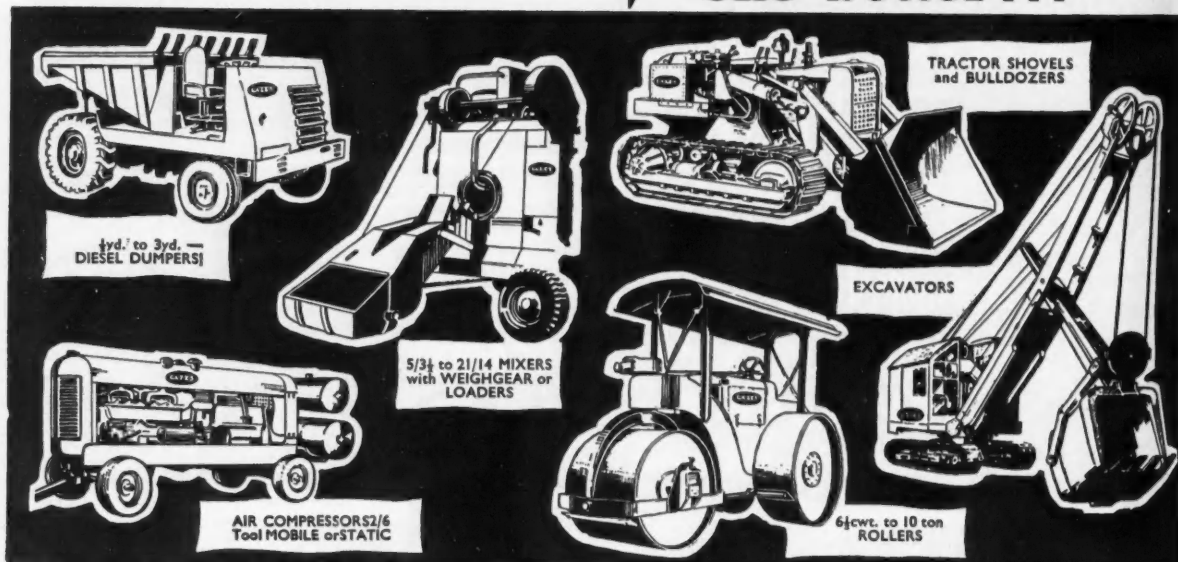
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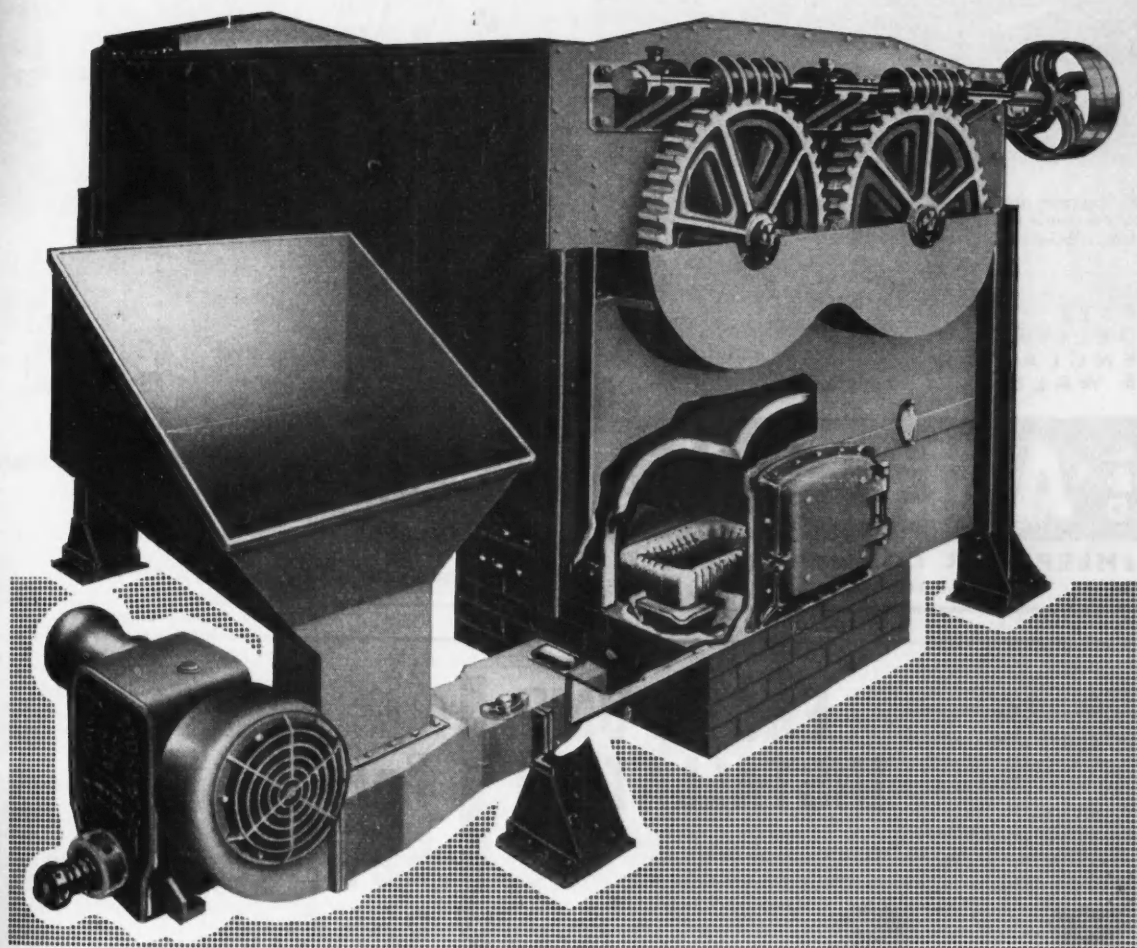
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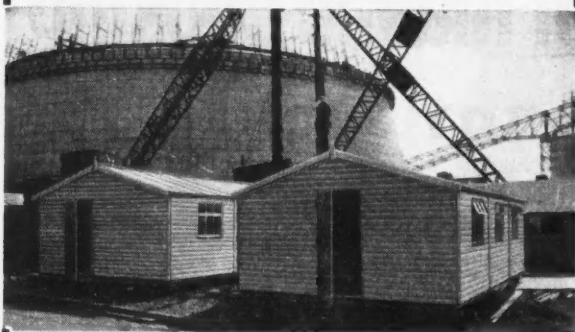
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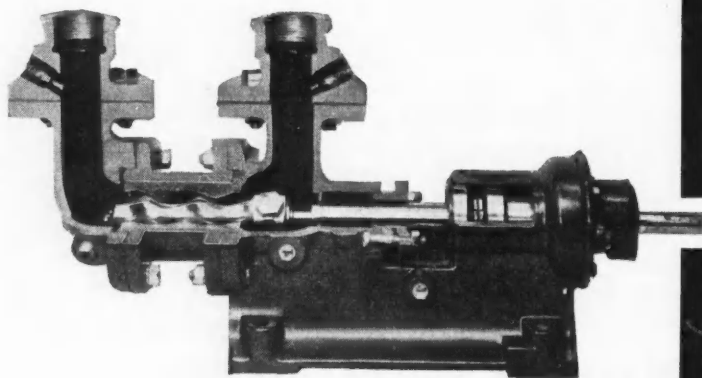
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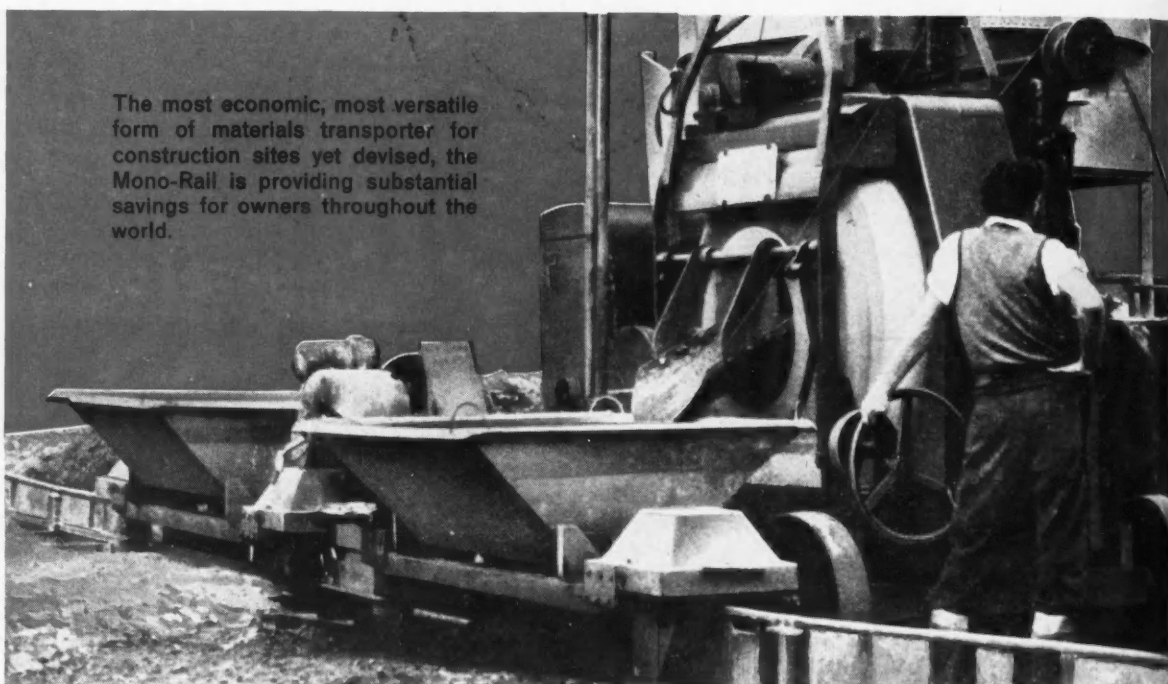
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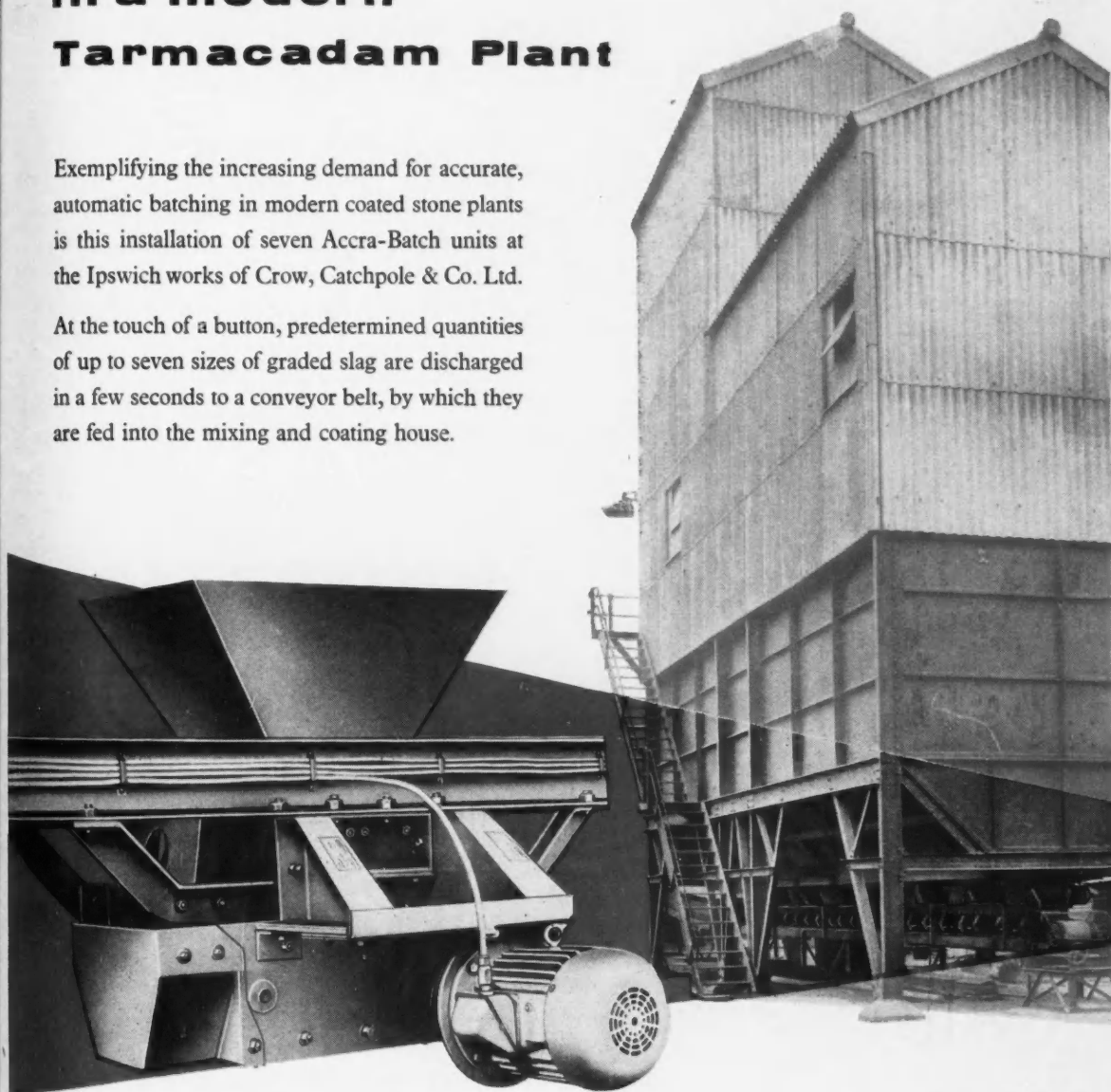


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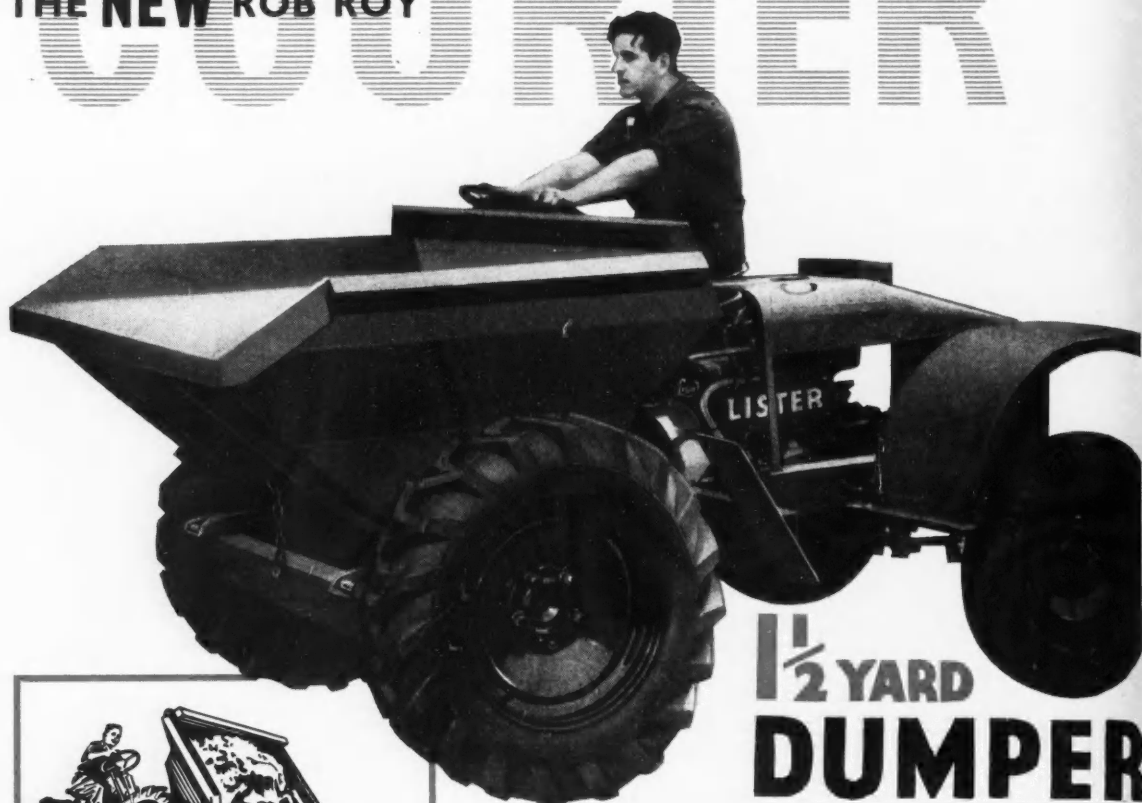
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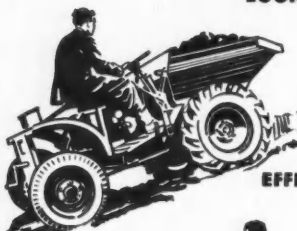
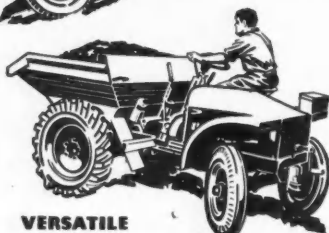
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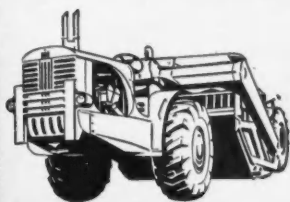
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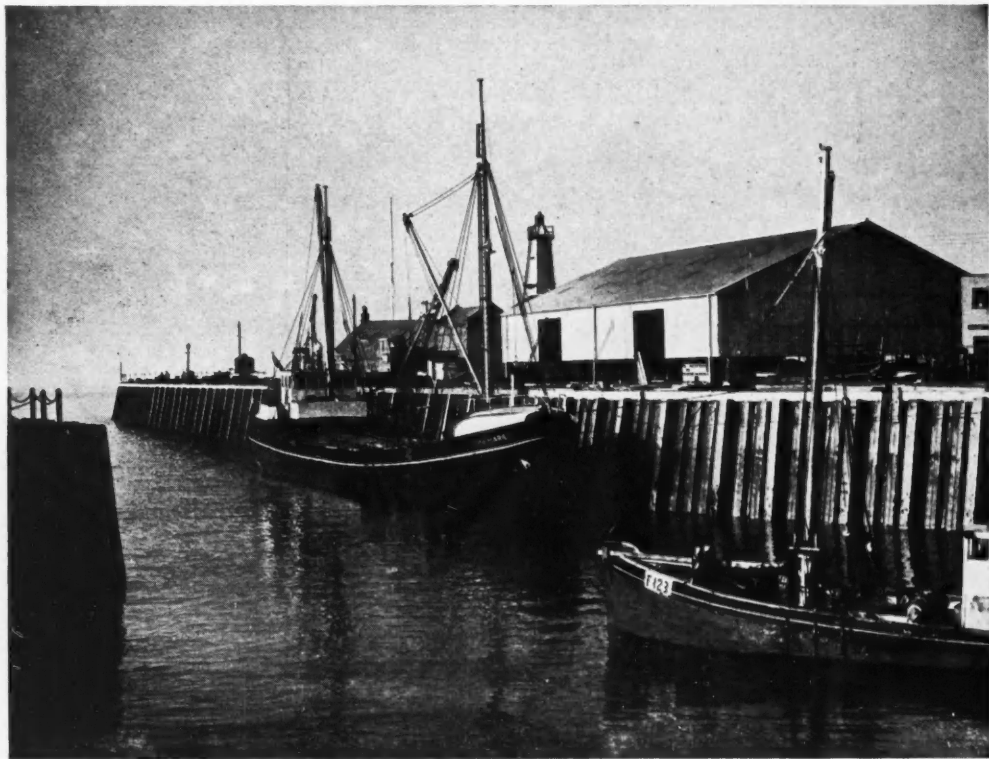
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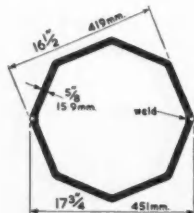
*Frodingham steel sheet piling Section No. 3 was used for the reconstruction of this quay at Whitstable.*

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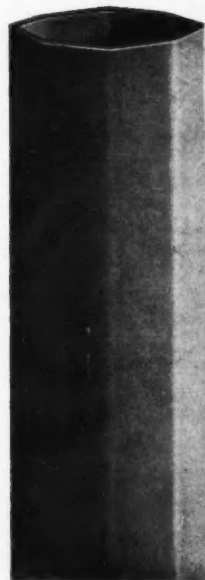
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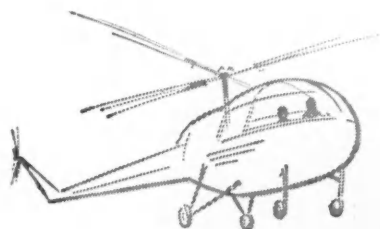
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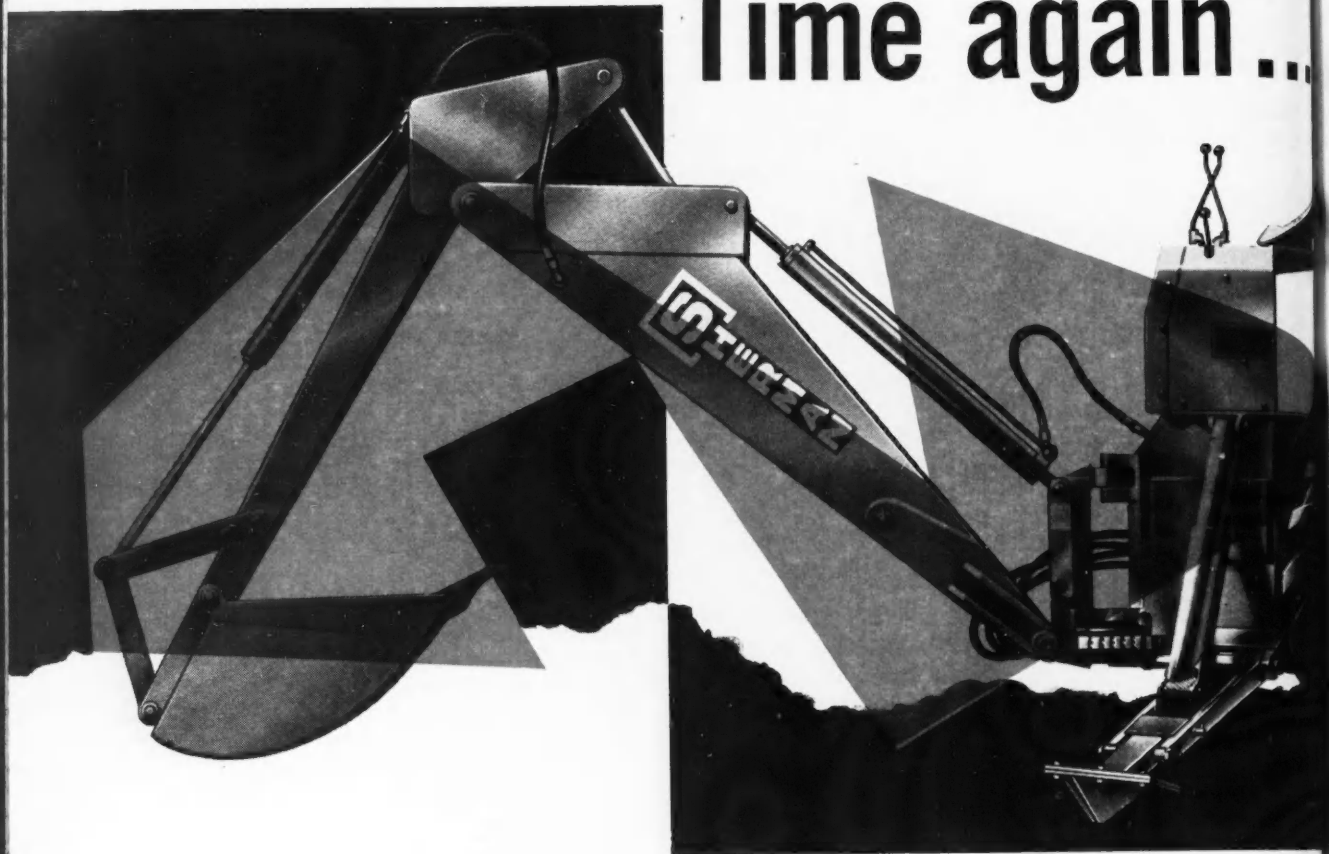
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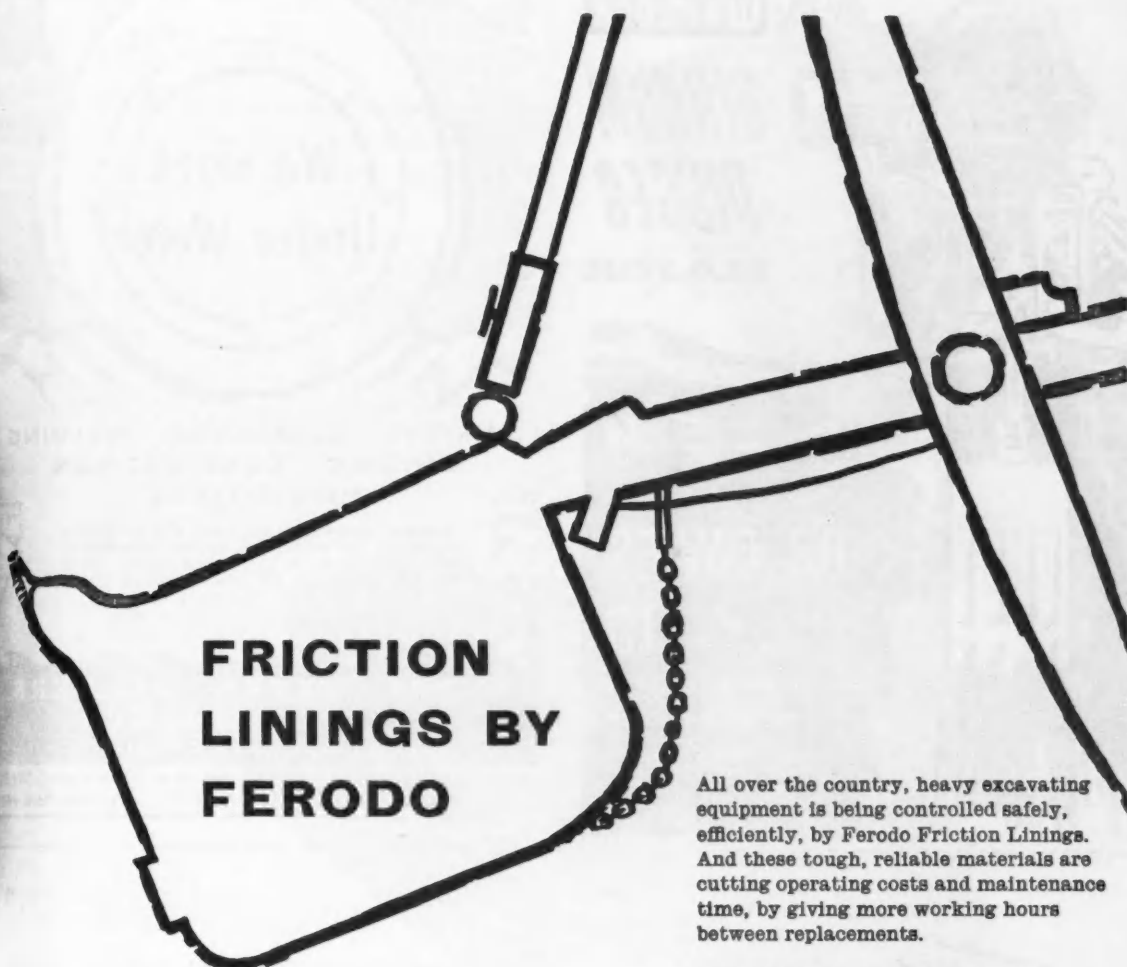
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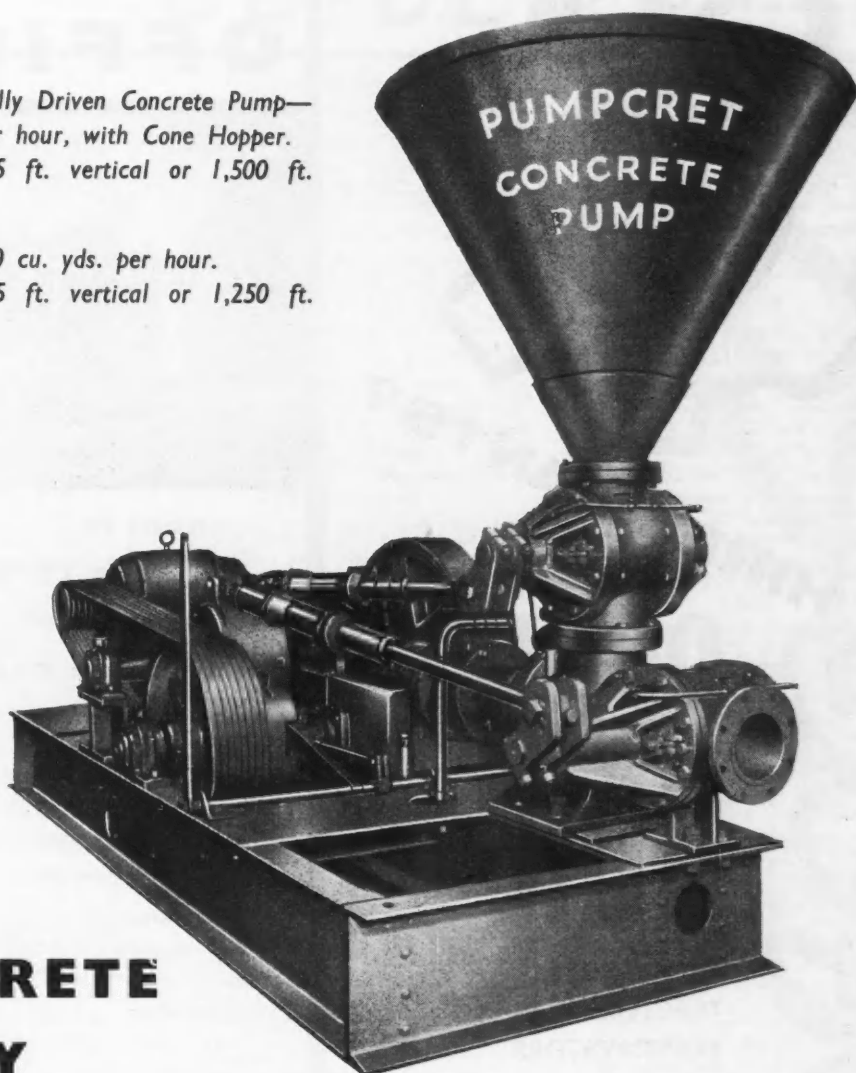
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**WYLSBURY SAND AND GRAVEL CO., LTD.**, Haison Road, Theale, Kent. (Tel.: Theale 373.)

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**NASH ROCKS STONE AND LIME CO., LTD.**, Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)  
**SALOP SAND AND GRAVEL SUPPLY CO.**, Admaston, Wellington (Tel. 961), Salop.

## BUCKINGHAMSHIRE

**AMEY'S AGGREGATES, LTD.**, Lower Wootton, Boars Hill, Oxford. (Tel.: Oxford 35421-10 lines.) Pits at Dry Sandford, near Abingdon, Sutton Courtenay, near Abingdon. (Tel.: Sutton Courtenay 275.)  
**THEALE, near Reading.** (Tel.: Theale 358.)  
**Oxon.** (Tel.: Clifton Hampden 236.) Billings, Northampton (Tel.: Cogenhoe 464) for washed and graded aggregates to B.S.S.  
**ASPHALTE CARPETS, LTD.**, 38 Buckingham Palace Road, London, S.W.1. (Tel.: Tate Gallery 4857 or Gerrards Cross 3496.) Manufacturers of all grades of gravel bitumen macadam, gravel asphalt and cold asphalt at Gerrards Cross.

**BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD.**, near Leicester. (Tel.: Coalville 1226/778; or London: Norwood Hill 115.) (For details, see Leica.)  
**MCISTER STONE CO., LTD.**, Stratton Audley, Bicester, Oxon. (Tel.: Stratton Audley 218.) Manufacturers and suppliers of all grades limestone tarmac, dry, pitching of stone, hardcore, etc.  
**COFF, HARRY A., LTD.**, Buckhurst Hill, Chesham, Asot. Herts. (Tel.: 1026/7.) (See Berkshire.)

**DANGERFIELD, F. J., & CO., LTD.**, 261A Finchley Road, London, N.W.3. (Tel.: HAMPSHIRE 8044/8.)  
 For all road aggregates, kerbs, setts. (See London.)  
**DRINKWATER, W. W. (WILLESDEEN), LTD.**, Rush Green, Denham, Bucks. (Tel.: Denham 2241/2/3.)  
**GRUNTIN, S. (EWELEME), LTD.**, Ewelme, Oxon. (Tel.: Ewelme 20.) London Office (Tel.: Uxbridge 4156.) All grades washed aggregates. Path hogs, broken stone, building sand.  
**HAINES, H. (WITNEY), LTD.**, Oxford Road, Witney. (Tel.: Witney 42.) All grades washed aggregates, hardcore, pitching and broken stone, Cotswold building and walling stone.  
**HALL AND CO., LTD.**, Brentford, Middlesex. (Tel.: Isleworth 4455.) and Crompton Road, High Wycombe (Tel.: 4360/1), and at Gerrards Cross. Pits at Waysbury (Middx.) and Iyer (Bucks.).

**JAMES AND CO., LTD.**, 2C Buckingham Avenue, Slough. Sand, aggregates, hardcore, ashes, bulldozing and bulk excavation. (Tel.: Slough 20361/2/3.)  
**LONDON BALLAST CO., LTD.** (Tel.: Paddington 5064.)  
**55A Porchester Terrace, London, W.2.**  
**MARLOW SAND AND GRAVEL CO., LTD.**, Westhorpe Pit, Little Marlow, Bucks. (Tel.: Marlow 379.)

**RUART PACEY, LTD.**, Gordon Road, High Wycombe. (Tel.: High Wycombe 2591/2.)  
**WELFORD GRAVELS, LTD.**, Head Office: Goldington, Bedford. (Tel.: 4587/8/9.) (See Bedfordshire.)

## CAMBRIDGESHIRE

**BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD.**, near Leicester. (Tel.: Coalville 1226/778; or London: Norwood Hill 115.) (For details, see Leica.)  
**DANGERFIELD, F. J., & CO., LTD.**, 261A Finchley Rd., London, N.W.3. (Tel.: HAMPSHIRE 8044/8.)  
 For all road aggregates, kerbs, setts. (See London.)

**DICKERSON, M., LTD.**, Teversham Corner, Newmarket Road, Cambridge. All grades washed sand and gravel, reject stone, hogs, breeze, clinker, "Terite" crushed granite, foamed slag, concrete and brick hardcore, ready-mixed concrete—all grades. (Tel.: Cambridge 6091/4.)  
**FRECKENHAM GRAVEL CO., LTD.**, The Brook, Sutton, Ely. (Tel.: Sutton 391/3.) Washed sand and gravel.  
**MACLAREN BROS. (KENNETT), LTD.**, gravel, tarred and bituminous, gravel asphalt, washed sand and gravel, all to B.S. Specifications. Delivered to any site. Station Rd., Kennet, Cambs. (Tel.: Kennet 333/4.)  
**NORTH ROAD GRAVEL WORKS, LTD.**, The Brook, Sutton, Ely. (Tel.: Sutton 391/3.) All grades washed sand and gravel, ready-mixed concrete and spun-concrete pipes. Pits: Wimpington.  
**ST. IVES SAND AND GRAVEL CO., LTD.**, 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3/4.) (See Huntingdonshire for details.)

**WEBB, G. CAMBRIDGE**, 35 Magrath Avenue, Cambridge. (Tel.: Cambridge 3969 and 4353.) Supplier, at kennet rates, of "Finest Quality Only" all grades washed sand and gravel, reject stone, hogs, clinker, ashes, brick rubble, pitching, hardcore and granite chippings. All to B.S. Specifications. Delivered to any site in East Cambs.  
**WELFORD GRAVELS, LTD.**, Head Office: Goldington Bedford. (Tel.: 4587/8/9.) (See Bedfordshire.)

## CAMBRIDGESHIRE

**DARBY'S SAND AND GRAVEL CO., LTD.**, The Brook, Sutton, Ely. (Tel.: Sutton 391/3.) All grades of washed sand and gravel, ready-mixed concrete.

**DICKERSON, M., LTD.**, Teversham Corner, Newmarket Road, Cambridge. All grades washed sand and gravel, reject stone, hogs, breeze, clinker, "Terite" crushed granite, foamed slag, concrete and brick hardcore, ready-mixed concrete—all grades. (Tel.: Cambridge 6091/4.)

**FRECKENHAM GRAVEL CO., LTD.**, The Brook, Sutton, Ely. (Tel.: Sutton 391/3.) Washed sand and gravel.  
**MACLAREN BROS. (KENNETT), LTD.**, gravel, tarred and bituminous, gravel asphalt, washed sand and gravel, all to B.S. Specifications. Delivered to any site. Station Rd., Kennet, Cambs. (Tel.: Kennet 333/4.)  
**NORTH ROAD GRAVEL WORKS, LTD.**, The Brook, Sutton, Ely. (Tel.: Sutton 391/3.) All grades washed sand and gravel, ready-mixed concrete and spun-concrete pipes. Pits: Wimpington.  
**ST. IVES SAND AND GRAVEL CO., LTD.**, 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3/4.) (See Huntingdonshire for details.)

**WEBB, G. CAMBRIDGE**, 35 Magrath Avenue, Cambridge. (Tel.: Cambridge 3969 and 4353.) Supplier, at kennet rates, of "Finest Quality Only" all grades washed sand and gravel, reject stone, hogs, clinker, ashes, brick rubble, pitching, hardcore and granite chippings. All to B.S. Specifications. Delivered to any site in East Cambs.  
**WELFORD GRAVELS, LTD.**, Head Office: Goldington Bedford. (Tel.: 4587/8/9.) (See Bedfordshire.)

## CARDIGANSHIRE

**NASH ROCKS STONE AND LIME CO., LTD.**, Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)  
**SALOP SAND AND GRAVEL SUPPLY CO.**, Admaston, Wellington (Tel. 961), Salop.

## CHESHIRE

**BUCKTON QUARRY.** Broken stone, all grades. (Tel.: Macclesfield 123.) Or write Main Road, Oldham.  
**CARLTON SAND AND GRAVEL QUARRIES, LTD.**, Pennant End Quarry, Whaley Bridge. (Tel.: Whaley Bridge 159.) Washed sand and gravel.  
**CAWCOCK, W. AND CO., LTD.**, Pitsill Gwyn Quarry, Llanarmon, near Mold. (Tel.: Llanarmon-yn-Ial 27.) Crushed limestone and tarred macadam all grades.  
**CHESHIRE AND NORTH WALES TARRED MACADAM CO., LTD.**, Llanarmon, near Mold. (Tel.: Llanarmon-yn-Ial 43.) Hard broken limestone, dry or in East Cambs. B.S. Inquiries to registered office—Market Chambers, Tower Square, Tunstall, Stoke-on-Trent. (Tel.: Stoke-on-Trent 8899/4.)

**CHORDEN GRAVEL, LTD.**, Cheshire, Stoke-on-Trent. (Tel.: Stoke-on-Trent 393.)  
**MANCHESTER OFFICE:** Blackfriars 3766/7. Plant capacity, 2,000 tons per day.  
**DUNNING AND SON, LTD.** (See Shropshire.)  
**ELLSMERE SAND AND GRAVEL CO., LTD.**, Wood Lane, Ellsmere, Salop. (Tel.: Ellsmere 167.) (For details see Shropshire.)  
**HARPER AND THOMAS, LTD.**, Bayston Hill Quarry, Shrewsbury. (See Shropshire for details.)

**HILTON GRAVEL, LTD.**, Rice Street, Liverpool Road, Manchester, 3. (Tel.: Deansgate 5455 and 5456.) Quarries at Cheshire, Staffs. (Tel.: Ton 241.) And at Llanarmon, Stoke-on-Trent. (Tel.: Llanarmon 32196.)  
**HULL AND GRAVEL CO., LTD.**, Cheshire, Stoke-on-Trent. (Tel.: Cheshire 2232/4, 2119 and 2195.)  
**MANCHESTER OFFICE:** Hardy's Buildings, 3 Cateaton Street, Manchester. (Tel.: 2277/1.)  
**PENMAENMAWR AND WELSH GRANITE CO., LTD.**, 7 Picton Road, Liverpool, 15. (Tel.: Sefton Park 7261.) All sizes and gradings of crushed granite delivered to any site in East Cambs. B.S. Inquiries to Depot. Any quantity per day; immediate delivery on stock.

**TERN HILL SAND AND GRAVEL CO., LTD.**, Almonington Quarries, near Market Drayton, Shropshire. (Tel.: Hales 261/2/3.) (See Staffordshire for details.)  
**TRENTHAM GRAVEL CO., LTD.**, Loresley Quarries, Woughbridge, near Market Drayton, Salop. (Tel.: Pipe Gate 304/5.) All sizes crushed or natural washed gravel. Twice washed sharp concrete sand. Plastering sand. Plant capacity: 2,000 tons per day.  
**WILLIAMS, C. F.**, Bishop Street Sand Quarry, Turncroft Lane, Stockport. (Tel.: Stockport 7096.) Building and concrete sand. Bulk sand and gravel filling a speciality.

## CORNWALL

**PENFTEWAN DOCK AND CONCRETE CO., LTD.**, Penfteenan Works, near St. Austell. (Tel.: Merseygate 3335/6.) Gwiltian Works, near Hayle. Pure silica gravel and grit, concreting, building, plastering and asphaltic sands, elvan and granite aggregates, all sizes.

**BROOMBY, LTD.**, Sandisle, Milnthorpe. (Tel.: 3251/2.)  
**WESTMORLAND.** (See Westmorland.)  
**ESK MANUFACTURING CO., LTD.**, Dalton Road, Carlisle, Cumberland. (Tel.: Carlisle 2-4941.) All grades washed, crushed gravel and concreting sand to B.S. Specification. Precast concrete products and partition blocks. Sand lime coloured facing and common bricks. Ex works or delivered.

## CUMBERLAND

**BALLIDON QUARRIES, LTD.**, Ballidon, near Ashbourne, Derbyshire. (Tel.: Farwich 201 and 202.) Clean and graded dry limestone to B.S.S., all sizes, coated limestone to B.S. 802 and 1621 and wet-mix; large output; reliable deliveries.  
**BURROWS BROTHERS (EXCAVATIONS), LTD.**, Market Place, Chester. West Bars, Chesterfield. (Tel.: Chesterfield 7130.) Red shale, black ashes, graded clinker, flint, masonry, stone slag, sand, gravel and hogs in fill. Bulk quantity supplies.  
**HILTON GRAVEL, LTD.**, Hilton, Derby. (Tel.: Etwall 422.) Also at Mercator. (Tel.: Stratford 316.) And at Willington. (Tel.: Repton 3215.)  
**HOVERINGHAM GRAVEL CO., LTD.**, Nottingham. (Tel.: Loughdam 3171-15 lines.) (For details, see Nottinghamshire.)

## DENBIGHSHIRE

**SALOP SAND AND GRAVEL SUPPLY CO.**, Admaston, Wellington (Tel. 961), Salop.

## DERBYSHIRE

**BALLIDON QUARRIES, LTD.**, Ballidon, near Ashbourne, Derbyshire. (Tel.: Farwich 201 and 202.) Clean and graded dry limestone to B.S.S., all sizes, coated limestone to B.S. 802 and 1621 and wet-mix; large output; reliable deliveries.  
**BURROWS BROTHERS (EXCAVATIONS), LTD.**, Market Place, Chester. West Bars, Chesterfield. (Tel.: Chesterfield 7130.) Red shale, black ashes, graded clinker, flint, masonry, stone slag, sand, gravel and hogs in fill. Bulk quantity supplies.  
**HILTON GRAVEL, LTD.**, Hilton, Derby. (Tel.: Etwall 422.) Also at Mercator. (Tel.: Stratford 316.) And at Willington. (Tel.: Repton 3215.)  
**HOVERINGHAM GRAVEL CO., LTD.**, Nottingham. (Tel.: Loughdam 3171-15 lines.) (For details, see Nottinghamshire.)

**HULLAND GRAVEL CO., LTD.**, Cheshire, Stoke-on-Trent. (Tel.: Cheshire 2232/4, 2119 and 2195.)  
**MANCHESTER OFFICE:** Hardy's Buildings, 3 Cateaton Street, Manchester. (Tel.: 2277/1.)  
**PENMAENMAWR AND WELSH GRANITE CO., LTD.**, 7 Picton Road, Liverpool, 15. (Tel.: Sefton Park 7261.) All sizes and gradings of crushed granite delivered to any site in East Cambs. B.S. Inquiries to Depot. Any quantity per day; immediate delivery on stock.

**TERN HILL SAND AND GRAVEL CO., LTD.**, Almonington Quarries, near Market Drayton, Shropshire. (Tel.: Hales 261/2/3.) (See Staffordshire for details.)  
**TRENTHAM GRAVEL CO., LTD.**, Loresley Quarries, Woughbridge, near Market Drayton, Salop. (Tel.: Pipe Gate 304/5.) All sizes crushed or natural washed gravel. Twice washed sharp concrete sand. Plastering sand. Plant capacity: 2,000 tons per day.  
**WILLIAMS, C. F.**, Bishop Street Sand Quarry, Turncroft Lane, Stockport. (Tel.: Stockport 7096.) Building and concrete sand. Bulk sand and gravel filling a speciality.

**BUCKTON QUARRY.** Broken stone, all grades. (Tel.: Macclesfield 123.) Or write Main Road, Oldham.  
**CARLTON SAND AND GRAVEL QUARRIES, LTD.**, Pennant End Quarry, Whaley Bridge. (Tel.: Whaley Bridge 159.) Washed sand and gravel.  
**CAWCOCK, W. AND CO., LTD.**, Pitsill Gwyn Quarry, Llanarmon, near Mold. (Tel.: Llanarmon-yn-Ial 27.) Crushed limestone and tarred macadam all grades.  
**CHESHIRE AND NORTH WALES TARRED MACADAM CO., LTD.**, Llanarmon, near Mold. (Tel.: Llanarmon-yn-Ial 43.) Hard broken limestone, dry or in East Cambs. B.S. Inquiries to registered office—Market Chambers, Tower Square, Tunstall, Stoke-on-Trent. (Tel.: Stoke-on-Trent 8899/4.)

**CHORDEN GRAVEL, LTD.**, Cheshire, Stoke-on-Trent. (Tel.: Stoke-on-Trent 393.)  
**MANCHESTER OFFICE:** Blackfriars 3766/7. Plant capacity, 2,000 tons per day.  
**DUNNING AND SON, LTD.** (See Shropshire.)  
**ELLSMERE SAND AND GRAVEL CO., LTD.**, Wood Lane, Ellsmere, Salop. (Tel.: Ellsmere 167.) (For details see Shropshire.)  
**HARPER AND THOMAS, LTD.**, Bayston Hill Quarry, Shrewsbury. (See Shropshire for details.)

**HILTON GRAVEL, LTD.**, Rice Street, Liverpool Road, Manchester, 3. (Tel.: Deansgate 5455 and 5456.) Quarries at Cheshire, Staffs. (Tel.: Ton 241.) And at Llanarmon, Stoke-on-Trent. (Tel.: Llanarmon 32196.)  
**HULL AND GRAVEL CO., LTD.**, Cheshire, Stoke-on-Trent. (Tel.: Cheshire 2232/4, 2119 and 2195.)  
**MANCHESTER OFFICE:** Hardy's Buildings, 3 Cateaton Street, Manchester. (Tel.: 2277/1.)  
**PENMAENMAWR AND WELSH GRANITE CO., LTD.**, 7 Picton Road, Liverpool, 15. (Tel.: Sefton Park 7261.) All sizes and gradings of crushed granite delivered to any site in East Cambs. B.S. Inquiries to Depot. Any quantity per day; immediate delivery on stock.

**TERN HILL SAND AND GRAVEL CO., LTD.**, Almonington Quarries, near Market Drayton, Shropshire. (Tel.: Hales 261/2/3.) (See Staffordshire for details.)  
**TRENTHAM GRAVEL CO., LTD.**, Loresley Quarries, Woughbridge, near Market Drayton, Salop. (Tel.: Pipe Gate 304/5.) All sizes crushed or natural washed gravel. Twice washed sharp concrete sand. Plastering sand. Plant capacity: 2,000 tons per day.  
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**HILTON GRAVEL, LTD.**, Rice Street, Liverpool Road, Manchester, 3. (Tel.: Deansgate 5455 and 5456.) Quarries at Cheshire, Staffs. (Tel.: Ton 241.) And at Llanarmon, Stoke-on-Trent. (Tel.: Llanarmon 32196.)  
**HULL AND GRAVEL CO., LTD.**, Cheshire, Stoke-on-Trent. (Tel.: Cheshire 2232/4, 2119 and 2195.)  
**MANCHESTER OFFICE:** Hardy's Buildings, 3 Cateaton Street, Manchester. (Tel.: 2277/1.)  
**PENMAENMAWR AND WELSH GRANITE CO., LTD.**, 7 Picton Road, Liverpool, 15. (Tel.: Sefton Park 7261.) All sizes and gradings of crushed granite delivered to any site in East Cambs. B.S. Inquiries to Depot. Any quantity per day; immediate delivery on stock.

**TERN HILL SAND AND GRAVEL CO., LTD.**, Almonington Quarries, near Market Drayton, Shropshire. (Tel.: Hales 261/2/3.) (See Staffordshire for details.)  
**TRENTHAM GRAVEL CO., LTD.**, Loresley Quarries, Woughbridge, near Market Drayton, Salop. (Tel.: Pipe Gate 304/5.) All sizes crushed or natural washed gravel. Twice washed sharp concrete sand. Plastering sand. Plant capacity: 2,000 tons per day.  
**WILLIAMS, C. F.**, Bishop Street Sand Quarry, Turncroft Lane, Stockport. (Tel.: Stockport 7096.) Building and concrete sand. Bulk sand and gravel filling a speciality.

## DERBYSHIRE

**HULLAND GRAVEL CO., LTD.**, Cheshire, Stoke-on-Trent. (Tel.: Cheshire 2232/4, 2119 and 2195.)  
**MANCHESTER OFFICE:** Hardy's Buildings, 3 Cateaton Street, Manchester. (Tel.: 2277/1.)

**SALISBURY AND WOOD, LTD.**, Matlock. (Tel.: 272/273.) Limestone and granite, dry or mixed gravel and sand; kerbs, slabs, blocks, pavers, reconstructed and natural stone; lime and ground limestone. Lightweight aggregates, ashes, red shale.

## DEVONSHIRE

**PLYMPTON TRADING CO., LTD.**, Marsh Mills, Plympton, Plymouth. (Tel.: Plympton 2361.) Washed and graded sands for all purposes. Special sands to B.S.S. Precast concrete.

## DORSET

**BULL, BROOK, S. AND L., LTD.**, 126A High Street, Winchester. (Tel.: 2264.) (See Hampshire.)  
**DANGERFIELD, F. J., AND CO., LTD.**, 261A Finchley Rd., London, N.W.3. (Tel.: HAMPSHIRE 8044/8.)  
 For all road aggregates, kerbs, setts. (See London.)  
**DORSET LIMESTONES, LTD.**, Bumpers Lane, Easton, Portland Dorset. (Tel.: Portland 2207/8.) Tarred and bituminous macadam, foundation materials, limestone for all purposes and to all grades. Portland stone aggregates and Portland cement aggregates for reconstructed stone by road and sea.  
**GILSON, S. S. C. AND SONS, LTD.**, Holcombe, near Bath. (Tel.: Stratton-on-the-Avon 243.)  
**HALL AND CO., LTD.**, 2 Commercial Road, Parkstone, Dorset. (Tel.: 379.)

**MOREYS (VERWOOD), LTD.**, Verwood, Wimborne Dorset. (Tel.: Verwood 234.) Concrete aggregates, building sand, hogs, ash, gravel.

## DURHAM

**BRAITHWAITE, A., AND CO., LTD.**, Knaresborough, Yorks. Quarry at Catterick. (Tel.: Old Catt. 157.) (For details see Yorkshire.)

## ESSEX

**ALRESFORD SAND AND BALLAST CO., LTD.**, Alresford Creek, near Colchester, Essex. (Tel.: Wivenhoe 341.) Pits at Alresford Creek, Brightlingsea, Stoke-by-Nayland, Bures and Holland. All grades of washed shingle, concreting sand and building sand. Road and water transport.

**BAKER, F. AND E., LTD.**, 73 High Road, Rayleigh, Essex. (Tel.: Rayleigh 1031.) Pits at Great Totham, Heybridge and West Tilbury. All grades of washed material supplied and delivered; also hardcore, ash and brick.  
**BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD.**, near Leicester. (Tel.: Coalville 1226/778; or London: Norwood Hill 115.) (For details, see Leica.)  
**BENT, MARSHALL (LEVYTON), LTD.**, 665-667, High Road, Leyton, E.10. (Tel.: Leyton 4047/8.) Sand, ballast, brick and concrete hardcore delivered all grades.

**DANGERFIELD, F. J., & CO., LTD.**, 261A Finchley Rd., London, N.W.3. (Tel.: HAMPSHIRE 8044/8.)  
 For all road aggregates, kerbs, setts. (See London.)  
**FERRIS AND AGGREGATES, LTD.**, The Limes Gate, Fencible Road, Barking, Essex. (Tel.: Hainault 5271/2, 3001/2.) Pits at Orsett, near Stanford-le-Hope, and Upminster. All grades of washed aggregates, plastering and building sand, hardcore, bricks, granite, also hardcore and ash.

**HALL AND CO., LTD.**, Manor Road, Romford. (Tel.: Romford 4232.) Pits at Aveley, Boreham and Linford, near Grays. Gravel aggregates, concrete, plastering and building sand.  
**HUNNABLE, F. A. AND SON, LTD.**, Rayne Road, Braintree, Essex. (Tel.: Braintree 51 and 1351.) Graded washed stone, ballast, to reject; washed concrete sand and washed soft building sand. Chalked sand for asphalt. Pits at Braintree, Bocking, Beaulieu, Hedingham and Colchester.

**LEIGH BUILDING SUPPLY CO., LTD.**, Head Office: 956 London Road, Leigh-on-Sea, Essex. (Tel.: 781-5 lines.) All grades washed materials—building sand, hardcore, ashes, bricks, granite, Peters and Barham, LTD., 309 South Street, Romford. (Tel.: Romford 44141-7 lines.) Washed and crushed gravel, all sizes; sand. Pits at Ashdham, Chigsal, St. James, Dagenham, Great Waltham, North Oxendon, Roxwell, West Thurrock.

**REID, T., LTD.**, Foxlands Gravel Pit, Foxlands, Cheltenham. (Tel.: Cheltenham 4717/4874.) Sand, ballast and shingles supplied and delivered; also ready-mixed concrete.  
**REID, P. T., LTD.**, Fairlop Airfield, Forest Road, Ilford. (Tel.: Hainault 6111/2/3.) High-grade sand, ballast and shingles supplied and delivered; also ready-mixed concrete.

**ST. IVES SAND AND GRAVEL CO., LTD.**, 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3/4.) (See Huntingdonshire for details.)  
**STANWAY CONTRACTS, LTD.**, Upper Edwards Hall, Eastwood, Southend-on-Sea. (Tel.: Eastwood 55161.) Sand and gravel pits at Rochford and Woodham. Graded aggregates supplied or delivered.

**WELFORD GRAVELS, LTD.**, Head Office: Goldington, Bedford. (Tel.: 4587/8/9.) Washed and graded aggregates to B.S.S.  
**WIVENHOE SAND, STONE AND GRAVEL CO., LTD.**, Wivenhoe, near Colchester, Essex. (Tel.: Wivenhoe 231.) High-quality washed aggregates of all grades.

## GLOUCESTERSHIRE

**AMEY'S AGGREGATES, LTD.**, Lower Wootton, Boars Hill, Oxford. (Tel.: Oxford 35421-10 lines.) Pits at Dry Sandford, near Abingdon, Sutton Courtenay, near Abingdon. (Tel.: Sutton Courtenay 275.)  
**THEALE, near Reading.** (Tel.: Theale 358.)  
**Oxon.** (Tel.: Clifton Hampden 236.) Billings, Northampton (Tel.: Cogenhoe 464) for washed and graded aggregates to B.S.S.

**BENGRY AND SONS, LTD.**, Longmoor, Kingsland, Locomotive, Herefordshire. (Tel.: Kingsland 301/4.) (See Herefordshire.)  
**COKE, T. F. (CHELTENHAM), LTD.**, 267 Gloucester Road, Cheltenham. (Tel.: Cheltenham 4717/4874.) Sand, graded gravel aggregates, hardcore, limestone, chippings, tarred and bituminous limestone, concrete blocks, fence posts, etc. etc.

**CROMHALL QUARRIES, LTD.**, Cromhall, Wotton-under-Edge, Glos. (Tel.: Fildes 346/7.) Concrete aggregates, pre-graded in large quantities. Tarmac, adam, tarpaving, bituminous macadam and cold asphalt to B.S.S. for hand or machine laying.  
**GRITTING, A., AND SONS, LTD.**, Churchdown, Gloucester. Pits, quarry and dredger owners. All grades and types aggregate materials. (Tel.: Churchdown 3135 & 2210.)

**AMEY'S AGGREGATES, LTD.**, Lower Wootton, Boars Hill, Oxford. (Tel.: Oxford 35421-10 lines.) Pits at Dry Sandford, near Abingdon, Sutton Courtenay, near Abingdon. (Tel.: Sutton Courtenay 275.)  
**THEALE, near Reading.** (Tel.: Theale 358.)  
**Oxon.** (Tel.: Clifton Hampden 236.) Billings, Northampton (Tel.: Cogenhoe 464) for washed and graded aggregates to B.S.S.

**BENGRY AND SONS, LTD.**, Longmoor, Kingsland, Locomotive, Herefordshire. (Tel.: Kingsland 301/4.) (See Herefordshire.)  
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## CONTRACTORS'

## IDE

## TO AGGREGATES

## GLOUCESTERSHIRE

HALL AND CO. LTD., Longmoor House, Ashton Vale Road, Bristol, 3. (Tel.: 63001.) Gravel aggregates, concreting, plastering and building sand.  
 POOLE (LECHLADE), LTD., Gravel Pit, Burford Road, Lechlade, Glos. (Tel.: Lechlade 219.)  
 IAYMAC, LTD., Wootton Bassett, Swindon. (Tel.: Wootton Bassett 391-3 lines.) (See Wiltshire.)  
 WHITECLIFF QUARRIES AND BRICKWORKS, LTD., Coleford, Glos. (Tel.: Coleford 3158/9.) Tared and bituminous limestones, macadam, asphalt, concrete aggregates, dolomitic media, engineering, facing, common bricks for all purposes. Delivery road or rail.

## HAMPSHIRE

AMEY'S AGGREGATES, LTD., Lower Wootton, Boars Hill, Oxford. (Tel.: Oxford 25421-10 lines.) Pits at Dry Sandford, near Abingdon, Sutton Courtenay, near Abingdon. (Tel.: Sutton Courtenay 275.) Theale, near Reading. (Tel.: Theale 358.) Dorchester, Oxon. (Tel.: Clifton Hampden 216.) Billings, Northampton. (Tel.: Cogehoe 464) for washed and graded aggregates to B.S.S.  
 BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: Norwood Hill 115.) (For details, see Leics.)  
 BULL BROS., S. AND L., LTD., 126A High Street, Winchester. (Tel.: 2264.) Concrete aggregates (reconstituted, pit-mixed, weightbatched to meet any specification) also ballast, hoggin, path gravel and sand from own pits at Fawley, Lockerley, Ringwood, Romsey, Sway and Totton.  
 DANGERFIELD, F. J. & CO., LTD., 261A Finchley Rd., London, N.W.3. (Tel.: Hampstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)  
 GILSON, S. C. AND SONS, LTD., Holcombe, near Bath. (Tel.: Stratton-on-the-Fosse 243.)  
 HALL AND CO., LTD., Baltic Wharf, Marine Parade, Southampton. (Tel.: Southampton 21234.) and at Portsmouth. Pits at Ringwood, Highbridge and Totton. Gravel aggregate, concreting, plastering and building sand.  
 HASKINS, G. AND SONS, Queen Street, Emsworth. For washed sands and graded aggregates, path and road gravels, hoggin, clinker, ashes. (Tel.: Emsworth 2691.)  
 MOREYS (VERWOOD), LTD., Verwood, Wimborne, Dorset. (Tel.: Verwood 234.) Concrete aggregates, building sand, hoggin, path gravel.  
 NEW MILTON SAND AND BALLS CO., Lymington Road, New Milton, Hants. (Tel.: 37 and 566.) Guaranteed uncoursed, washed, screened and graded concrete aggregates. All sizes. Washed sharp and fine sand.  
 PRIVETT, W. G. AND SONS, LTD., Drayton Lane, Portsmouth. (Tel.: Cosham 70059.) Concrete aggregates, building sand, hoggin, ashes, washed and graded filter media, etc.  
 RALPH OF BABINGSTON, LTD., 37 Kemphott Lane, Basingstoke, Hants. (Tel.: 85.) Concrete aggregates, building sand, path gravel, hoggin, etc.  
 WRAYSBURY SAND AND GRAVEL CO., LTD., Station Rd., Theale, Reading, Berks. (Tel.: Theale 373.)  
 WESSEX SAND AND GRAVEL CO., 26 Hildridge Ave., Southampton. (Tel.: 56616.) Pits at Romsey and Fair Oak. Concrete aggregates, hoggin, building sand, etc.

## HEREFORDSHIRE

BENGEY AND SONS, LTD., Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) Suppliers of all grades of crushed concrete aggregates, road metalling, pitching stone, hardcore and coated macadam.  
 DINMORE GRAVEL AND STONE CO., LTD., SA King Street, Hereford. (Tel.: Hereford 523.) Suppliers of all grades of concrete aggregates, sand, pitching stone and hardcore.  
 HARPER AND THOMAS, LTD., Bayston Hill Quarry, Shrewsbury. (See Shropshire for details.)  
 NABII ROCKS STONE AND LIME CO., LTD., Presteigne, Radnor. (Tel.: Presteigne 352.) All grades of tared and bituminous macadam, roadstone, chipping and concrete aggregates, etc.  
 OLD RADNOR TRADING CO., LTD., Kingston. (Tel.: 11.) Granite and limestone aggregates, coated macadam, concrete products, concrete aggregates.  
 SALOP SAND AND GRAVEL SUPPLY CO., Admaston, Wellington (Tel. 961), Salop.  
 WHITECLIFF QUARRIES AND BRICKWORKS, LTD., Coleford, Glos. (Tel.: 3158/9.) (See Gloucestershire.)

## HERTFORDSHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: Norwood Hill 115.) (For details, see Leics.)  
 DANGERFIELD, F. J. AND CO., LTD., 261A Finchley Road, London, N.W.3. (Tel.: Hampstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)  
 EASTWOODS BROS., LTD., Eastwood House, City Road, E.C.1. (Tel.: Clerkenwell 2040.) Broxbourne Road. (Tel.: Hoddeston 2456.) Producers and distributors of all grades of washed aggregates.  
 GABRIEL, C., LTD., Palmers Lane, Enfield, Middx. (Tel.: HOWARD 4351/2/3.) Washed aggregates and building sand. Pits at Hertford and Enfield.  
 HALL AND CO., LTD., Railway Yard, Orchard Road, Stevenage (Tel.: 775.) and at Hatfield. Gravel aggregates, concreting, plastering and building sand.  
 IVEY SAND AND GRAVEL CO., LTD., 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3/4.) (See Huntingdonshire for details.)  
 WEBB, G., CAMBRIDGE, 35 Magrath Avenue, Cambridge. (Tel.: 3969/4351.) (See Cambridgeshire.)  
 WINFIELD, HENRY, LTD., Pix Farm Lane, Hemel Hempstead. (Tel.: Berkhamsted 1208/9.) Pits at Watford, Leighton Buzzard, Heath and Reach, and Bedford.

## HUNTINGDONSHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: Norwood Hill 115.) (For details, see Leics.)  
 DANGERFIELD, F. J. AND CO., LTD., 261A Finchley Road, London, N.W.3. (Tel.: Hampstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)  
 FERRERS AND AGGREGATES, LTD., Northampton Road Quarries, Rushden (2354/5.) (See Northants.)  
 GRAVEL PRODUCTS (HUNTS), LTD., St. Neots, Hunts. (Tel.: St. Neots 123.) Pits at Little Porton, near St. Neots. (Tel.: St. Neots 308.) Deliveries in Beds, Hunts and South Cambs.  
 NENE BARGE AND LIGHTER CO. LTD., Market Chambers, Peterborough. (Tel.: 5534/5.) and Ship End Quarries, Wansford, near Peterborough. (Tel.: Wansford 384/5.) Roadstone, hardcore, broken stone, ballast, ash, silica clay and sand.  
 ST. IVES SAND AND GRAVEL CO., LTD., 22 The Broadway, St. Ives. (Tel.: St. Ives 2441/2/3/4.) Producers of all grades of washed sand and gravel. Ready mixed concrete. Precast concrete of every description.  
 WEBB, G., CAMBRIDGE, 35 Magrath Avenue, Cambridge. (Tel.: 3969/4351.) (See Cambridgeshire.)  
 WELFORD GRAVELS, LTD., Head Office: Goldington, Bedford. (Tel.: 4587/8/9.) (See Bedfordshire.)

## KENT

BRASSET SAND PITS, Braisted, Kent. (Tel.: 586.) London office: 10A Elderly Street, S.E.15. (Tel.: New Cross 3337.) Soft and plastering sands, lime and sand-mix dry, hardcore, S.E. bricks, ashes, etc.  
 BROWN BROS. (BITTINGBOURNE), LTD., Chalkwell Road, Sittingbourne, Kent. (Tel.: Sittingbourne 330.) Ballast, shingle, hardcore, clinker, breeze blocks, etc.  
 CLUBB, J., LTD., Dartford, Kent. (Tel.: Dartford 25431.) Pits in North Kent, Medway area and Sevenoaks district. All washed and crushed gravel aggregates, concreting and building sand.  
 DIAMOND TREAD CO. (1938), LTD., Ditton Court Quarry, Larkfield, near Maidstone. (Tel.: West Malling 3444.) Quarryowners; tarmacadam, bituminous macadam and dry road stone manufacturers and suppliers. Head Office: 21-22 Old Bailey, London, E.C.4. (Tel.: City 7001-10 lines.)  
 DIAMOND TREAD CO. (CHART), LTD., Swan Lane Quarries, Little Chart, Ashford, Kent. Quarryowners; tarmacadam, bituminous macadam and dry roadstone suppliers. All inquiries to Area Office: Ditton Court Quarry, Larkfield, near Maidstone, Kent. (Tel.: W. Malling 3444.)  
 HALL AND CO., LTD., Canning Street, Maidstone. (Tel.: Maidstone 11051.) and at Folkestone and Hayes. Pits at Lunsford, near Larkfield. Gravel aggregates, concreting, plastering and building sand. Surcrete, precast mixed concrete.  
 HARRIS, M. P. AND CO., LTD., Station Road, Paddock Wood, Kent. (Tel.: 383.) (See Sussex.)  
 TILBURY CONTRACTING AND DREDGING CO., LTD., Postley, Maidstone. (Tel.: Maidstone 55401/2/3.) Suppliers of tared, bituminous and dry Kentish ragstone, sea walling, asphalt fillers, Scotch granite and kerbing.

## LANCASHIRE

BROOMBYS, LTD., Sandisle, Milnthorpe (Tel. 3251/2), Westmorland. (See Westmorland.)  
 BUCKTON QUARRY, Broken stone, all grades. (Tel.: Moseley 123.) Or write Moseley Road, Oldham.  
 CASTLETON SAND AND GRAVEL QUARRIES, LTD., Towns Lane, Castleton, nr. Rochdale. (Tel.: Castleton 57100.) Lee Quarries, Bacup. (Tel.: Bacup 287.) Washed pit sand, crushed washed stone aggregates; pitching stone.  
 CROFT GRANITE BRICK AND CONCRETE CO., LTD., Bank, West. (Tel.: 2656.) "Kubitzed" granite aggregate to B.S.S., tared and bituminous macadam, cold asphalt, "Croft" Subtle Wet Mix, filter media, concrete products.  
 CROXDEN GRAVELS, LTD., Cheside, Stoke-on-Trent, Staffs. (Tel.: Team 393.) Manchester Office: Blackfriars 3766/7. Plant capacity, 2,000 tons per day.  
 DUNNING AND SON, LTD. (See Shropshire.)  
 HARTLEY, JOHN W., LTD., Lundsfield Quarry, Carnforth, Lancs. (Tel.: Carnforth 100.) Large producers of highest quality washed sands, clean washed natural pebble and shingle, gravel aggregates for all constructional purposes.  
 HILTON GRAVEL, LTD., Rise Street, Liverpool Road, Manchester, 3. (Tel.: Deansgate 5455 and 5456.) Quarries at Cheside, Staffs. (Tel.: Team 241.) and at Longton, Stoke-on-Trent. (Tel.: Longton 32196.)  
 HULLAND GRAVEL CO., LTD., Cheside, Stoke-on-Trent. (Tel.: Cheside 2333/4, 2119 and 2195.) Manchester Office: Hardy's Buildings, 3 Cateaton Street, Manchester, 3. (Tel.: Blackfriars 2277/8.)  
 PENMAENMAWR AND WELSH GRANITE CO., LTD., all sizes and gradings of crushed granite aggregate. Immediate delivery ex stock.  
 Liverpool and Preston Depots:  
 Office: 7 Picton Road, Liverpool, 15.  
 (Tel.: Sefton Park 7261.)  
 Manchester Depot:  
 Office: Cornbrook Road, Manchester, 15.  
 (Tel.: Trafford Park 3830.)  
 ROUND-O QUARRIES, LTD., Helaby Street, Warrington. (Tel.: 35451-4 lines.) Building and concrete sand and shale.  
 TERN HILL SAND AND GRAVEL CO., LTD., Almonston Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffordshire for details.)  
 TRENTHAM GRAVEL CO., LTD., Lordsey Quarries, Willoughbridge, near Market Drayton, Salop. (Tel.: Pipe Gate 304/5.) All sizes crushed natural washed gravel. Twice washed sharp concreting sand. Plant capacity: 2,000 tons per day.  
 WELFORD GRAVELS, LTD., Head Office: Goldington, Bedford. (Tel.: 4587/8/9.) Local Office and pits, Croyley 392.  
 WITHERS LIMESTONE, LTD., Black Lane Quarry, Carnforth. (Tel.: Carnforth 327.) Graded limestone aggregate to B.S.S., all sizes. Immediate delivery ex-stock.  
 X.L. GRANITE (INGLETON), LTD., Head Office: Clapham, via Lancaster. (Tel.: Clapham 318/9.) Works Tel.: Ingleton 231. All sizes and gradings of Ingleton granite aggregate.

## LEICESTERSHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London Office: Norwood Hill 115.) Best Leicester-shire grey granite, dry and coated gradings to any specification, cold asphalt and wet mix. Prompt road/rail delivery.  
 BRUNTINGTHORPE GRAVELS, LTD., Gilmorton, near Rugby. (Tel.: Lutterworth 46.) All sizes gravel aggregate, building and concrete sand to B.S.S., scientifically balanced ballast.  
 CLIFFE HILL GRANITE CO., LTD., Markfield, near Leicester. (Tel.: 261/2/3.) Granite aggregates to B.S.S. All sizes. Tared and bituminous granite, concrete slabs and kerbs. Transil-mixed concrete.  
 CROFT GRANITE, BRICK AND CONCRETE CO., LTD., Croft, near Leicester. (Tel.: Narborough 2261-4 lines.) "Kubitzed" granite aggregate to B.S.S., tared and bituminous macadam, cold asphalt, "Croftmaute" Wet Mix, filter media, concrete products.  
 DUSTON STONE QUARRIES, LTD., New Duston, Northampton. (Tel.: Brizworth 271 and 298; Duston 505.) (See Northamptonshire.)  
 ENDERBY AND STONEY STANTON GRANITE CO., LTD., 21 New Walk, Leicester. (Tel.: 5668/2.) Quarries at Enderby. London Office: 29 Dorset Square, N.W.1. (Tel.: Amb. 1141.)  
 HILL SAND, GRAVEL, LTD., Hemington Fields, near Shardlow, Derby. (Tel.: Shardlow 266.)  
 HOVERINGHAM GRAVEL CO., Hoveringham, Nottingham. (Tel.: Lowdham 3171-15 lines.) (For details, see Nottinghamshire.)  
 MOUNTSOREL GRANITE CO., LTD., 21 New Walk, Leicester. (Tel.: 5668/2.) Quarries at Mountsorel, near Loughborough. Main pit granite a speciality. London Office: 29 Dorset Sq., N.W.1. (Amb. 1141.)

## LEICESTERSHIRE

WANLIP GRAVELS, LTD., Wanlip Road, Wyton, Leicester. Any size or grading, scientifically balanced ballast. All to B.S.S. (Tel.: Wyton 2591.)  
 WELFORD GRAVELS, LTD., Head Office: Goldington, Bedford. (Tel.: 4587/8/9.) (See Northamptonshire.)  
 WREAKE VALLEY GRAVELS CO., LTD., Melton Mowbray. (Tel.: Pitts 211/2/3/4/5 or 2540.) Head Office: Melton 2488.) All grades washed aggregate and sand.

## LINCOLNSHIRE

BULLIMORES SAND AND GRAVEL, LTD., South Witham, Grantham. (Tel.: Thistleton 223.) Building sand, hardcore, ashes. All grades washed sand and aggregate.  
 BURROWS BROTHERS (EXCAVATIONS), LTD., Market Place Chambers, West Bar, Chesterfield. (Tel.: 7150.) (For details, see Derbyshire.)  
 CONINGSBY SUPPLY CO., LTD., Registered Office: The Broadway, Woodhall Spa, Lincs. (Tel.: Woodhall Spa 3150.) Screened limestone, hardcore, pitching, filling, flint, hoggin. Ex-quarries or delivered.  
 DOW-MAC (PRODUCTS), LTD., Tallington, Stamford. All grades of washed sand and gravel. (Tel.: Market Deeping 2301.)  
 EAST MIDLANDS BUILDERS SUPPLY CO., 21 Canbydyke West, Barton-on-Humber, Lincs. (Tel.: 2189.) All grades washed sand and gravel, roadstone, hardcore, washed silica sand.  
 GIBBONS, F. B. AND SONS, LTD., Registered Office: Welby House, Market Deeping, near Peterborough. (Tel.: Market Deeping 2318.) Market Deeping 2318.) Pits at Lough, near Peterborough. (Tel.: Market Deeping 2318.) All grades washed sand and aggregates.  
 HARTSHOLME GRAVEL AND SAND CO., LTD., Hartsholme Woods, Doddington Road, Lincoln. Sales agents: Hartsholme Sales, Ltd., 17 W. Parade, Lincoln. (Tel.: Lincoln 23391.)  
 HOVERINGHAM GRAVEL CO., Hoveringham, Nottingham. (Tel.: Lowdham 3171-15 lines.) (For details, see Nottinghamshire.)  
 PETERBOROUGH QUARRIES, LTD., Sandybank, Masey, Peterborough. (Tel.: Market Deeping 2351-3 lines.) Quarry at Masey, all grades of broken and broken stone. (See also Northamptonshire.)  
 FOLLARD, C. AND SON (TALLINGTON), LTD., Walk House, Langtoft, Peterborough. Pits at Langtoft, near Spalding. (Tel.: 2140.) All grades washed sand and aggregates. For Supercrete ready mixed concrete, phone Market Deeping 3132.  
 TRENTHAM GRAVELS, LTD., Head Office: Deansgate, Grimsby. (Tel.: Grimsby 5354.) Washed and graded gravel and sand, roadstone, hardcore, slag, tarmac, ashes, etc. Pits and quarries throughout the county.

## LONDON

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: Norwood Hill 115.) (For details, see Leics.)  
 COX, H. AND SONS, LTD., 33 Southampton Way, Camberwell, S.E.5. (Tel.: 2215-3 lines.)  
 CROFT GRANITE, BRICK AND CONCRETE CO., LTD., 128-116 High Street, Edgware, Middx. (Tel.: Edgware 9076/7 and 1246.) "Kubitzed" granite aggregate to B.S.S., tared and bituminous macadam, cold asphalt, "Croftmaute" Wet Mix. Filter media, concrete products.  
 DANGERFIELD, F. J. AND CO., LTD., 261A Finchley Road, N.W.3. (Tel.: Hampstead 8044-8.) Granite, limestone or slag, coated or dry, all sizes and pit-bulked, washed, granite, filter media, and other minerals by road or rail, or ex-London stock.  
 DORSET LIMESTONES, LTD., Bumpers Lane, Easton, Portland, Dorset. (Tel.: Portland 2207/8.) (For details, see Dorset.)  
 DRINKWATER, W. W. (WILLEDEN), LTD., Dable Hill Lane, Willeden, N.W.10. (Tel.: GLADSTONE 6400/5.) Pits: Rush Green, Denham, Bucks. (Tel.: Denham 2241/2/3.) Also Salinas Road, Hounslow Heath, Middlesex. (Tel.: Hounslow 6222/3.)  
 GABRIEL, C., LTD., Palmers Lane, Enfield, Middx. (Tel.: HOWARD 4351/2/3.) Washed aggregates and building sand. Pits at Enfield and Hertford.  
 HALL AND CO., LTD., Chantry House, Redman Street, S.W.1. (Tel.: Sloane 7122.) and at Exbury, Wiltshire. (Tel.: 2591.) Washed aggregates, concreting, plastering and building sand.  
 KEEN, W. J. AND SONS, 18 Granville Road, Epping, Essex. (Tel.: Epping 2520.) All sands, ballast, shingle and hardcore supplied.  
 LONDON BALLAST CO., LTD. (Tel.: Paddington 5044.) 55A Porchester Terrace North, Paddington, W.2.  
 REA, P. R., LTD., Down Works, Ambrose Terrace, Hackney, E.3. (Tel.: Clissold 6971/2.) All sand, ballast and shingles supplied and delivered; also ready mixed concrete. Pits: Fairlop Airfield, Forest Road, Uford, Essex. (Tel.: Hainault 1111/2/3.)  
 ROADS RECONSTRUCTION (1934), LTD., Stocking Lane, West Drayton, Middlesex. (Tel.: W. Drayton 3041.) All sizes broken limestone, dry and coated to British Standards.

## MERIONETHSHIRE

SALOP SAND AND GRAVEL SUPPLY CO., Admaston, Wellington (Tel. 961), Salop.

## MIDDLESEX

CROSS, GEO. C. AND CO., LTD., Ironbridge, Uxbridge. (Tel.: Southall 2264/5/6.) Sand, ballast, shingle, hardcore, ashes, etc.  
 DRINKWATER, W. W. (WILLEDEN), LTD., Station Rd., Hounslow Hb., Middx. (Tel.: Hounslow 6222/3.)  
 GABRIEL, C., LTD., Palmers Lane, Enfield, Middx. (Tel.: HOWARD 4351/2/3.) Washed aggregates and building sand. Pits at Enfield and Hertford.  
 GRINDON, R., LTD., Harlington Road, Hillingdon, Middlesex. (Tel.: Uxbridge 4156.) Sand, ballast, shingle, hardcore, ashes, excavation and demolition material.  
 HALL AND CO., LTD., Chantry House, Redman Street, S.W.1. (Tel.: Sloane 7122.) and at Exbury, Wiltshire. (Tel.: 2591.) Washed aggregates, concreting, plastering and building sand.  
 LONDON BALLAST CO., LTD. (Tel.: Paddington 5044.) 55A Porchester Terrace North, Paddington, W.2.  
 STUART MACEY, LTD., Gordon Road, High Wycombe. (Tel.: High Wycombe 2591.)  
 THAMES SAND AND GRAVEL CO., LTD., Fordridge Road, Shepperton. (Tel.: Walton-on-Thames 2341/4.) Gravel aggregates, concreting, plastering and building sand.  
 WRAYSBURY SAND AND GRAVEL CO., LTD., Pitts at Wraybury. (Tel.: Wraybury 164.) Gravel aggregates, concreting, plastering and building sand.



# CONTRACTORS' GUIDE TO AGGREGATES

## MID-WALES

**ENGLAND AND SONS, LTD.**, Longmoor, Kingsland, Loominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)

**ELLSMERE SAND AND GRAVEL CO., LTD.**, Wood Lane, Ellesmere, Salop. (Tel.: Ellesmere 167.) (For details, see Shropshire.)

**HARPER AND THOMAS, LTD.**, Bayston Hill Quarry, Shrewsbury. (See Shropshire for details.)

**NASH ROCKS STONE AND LIME CO., LTD.**, Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)

**OLD RADNOR TRADING CO., LTD.**, Quarries in Radnorshire. (Tel.: Kingston 11.) (See Herefordshire.)

**SALOP SAND AND GRAVEL SUPPLY CO., ADMOSTON**, Wellington (Tel. 961), Salop.

**TERN HILL SAND AND GRAVEL CO., LTD.**, Alington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffordshire for details.)

## MONMOUTHSHIRE

**IN-SITU CONCRETE, LTD.**, Victoria Works, Ebbw Vale (Tel. 3032) and Phoenix Works, Cardiff (Cardiff 6311) for limestone and slag aggregates, ready-mixed concrete, tarmacadam, media, filling, etc., kerbs and pavings.

**MONMOUTHSHIRE ASSOCIATED QUARRIES, LTD.**, Head Office: 38 Chepstow Road, Newport, Mon. (Tel.: Newport 5811/2.) Suppliers of all grades of concrete aggregates, road metal, pitching stone, tarmacadam and bituminous macadam in limestone, dolomite and blue pennant stone. Quarries throughout the county.

**WELSH CLIFF QUARRIES AND BRICKWORKS, LTD.**, Colaford, Glos. (Tel. 3158/9.) (See Gloucestershire.)

## MONTGOMERYSHIRE

**HARPER AND THOMAS, LTD.**, Bayston Hill Quarry, Shrewsbury. (See Shropshire for details.)

**NASH ROCKS STONE AND LIME CO., LTD.**, Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)

**SALOP SAND AND GRAVEL SUPPLY CO., ADMOSTON**, Wellington (Tel. 961), Salop.

## NORFOLK

**BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD.**, near Leicester. (Tel.: Coalville 1226/7/8; or London: Norwood Hill 115.) (For details, see Leics.)

**FITCHES GRAVEL CO., LTD.**, The Brook, Sutton, Ely, Cambs. (Tel.: Sutton 391/3.) Washed and graded pits: Feltham.

**JOHNSON, F. C. & H. LTD.**, Station Road, Terrington St. Clement, near King's Lynn. (Tel.: Terrington St. Clement 248.) Washed and screened gravel, roadstone, washed sharp and fine sands.

**HOVE GRAY PITS, LTD.**, Hovey Lane, Norwich. (Tel.: Norwich 332434.) Washed and graded aggregate, stone and gravel delivered to all parts of Norfolk and Suffolk.

## NORTHAMPTONSHIRE

**AMEY'S AGGREGATES, LTD.**, Lower Wootton, Boars Hill, Oxford. (Tel.: Oxford 35421—10 lines.) Pits at Dry Sandford, near Abingdon, Sutton Courtenay, near Abingdon, near Reading. (Tel.: Sutton Courtenay 275.) Theale, near Reading. (Tel.: Theale 358.) Dorchester, Oxon. (Tel.: Clifton Hampden 236.) Billing, Northampton. (Tel.: Cogenhoe 464) for washed and graded aggregates, dry pitching stone, hardcore, etc.

**BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD.**, near Leicester. (Tel.: Coalville 1226/7/8; or London: Norwood Hill 115.) (For details, see Leics.)

**BICESTER STONE CO., LTD.**, Stratton Audley, Bicester, Oxon. (Tel.: Stratton Audley 238.) Manufacturers and suppliers of all grades limestone tarmacadam, dry pitching stone, hardcore, etc.

**HILTON GRAVEL CO., LTD.**, Station Road, Billing, Northampton. (Tel.: Cogenhoe 219.) London office: 21 Berkeley Square, W.1. (Tel.: Mayfair 634.)

**MAYBROOK, E. W. LTD.**, Newton Road, Higham Ferrers, Northants. (Tel.: Rushden 3344 and 3345.) All grades of washed and graded aggregates to tarmacadam, dry pitching stone, hardcore, etc.

**DANGERFIELD, F. J. AND CO., LTD.**, 261A Finchley Road, London, N.W.3. (Tel.: HAMPTON 8044/8.) For all road aggregates, kerbs, setts (See London.)

**DOWNMAC (PRODUCTS) LTD.**, Tallington, Stamford. All grades of washed sand and gravel. (Tel.: Market Deeping 2301.)

**WILSON STONE QUARRIES, LTD.**, New Duston, Northampton. (Tel.: Brixworth 278 and 298; Radon 505.) Producers of building and walling stone, roadstone, hardcore, broken stone, ashes, sand, gravel and boulders. Immediate delivery throughout Northamptonshire.

**FERRERS AND AGGREGATES, LTD.**, Northampton Road Quarries, Rushden, Northants. (Tel.: Rushden 3345/5.) Largest producers in the county of all grades of high-quality concrete aggregate to B.S.S. Deliveries throughout Northamptonshire and adjoining counties.

**GRIBBINS, F. B. AND SONS, LTD.**, Welby House, Market Deeping, Peterborough. (Tel.: Market Deeping 3321/2383.) (See Lincolnshire for details.)

**HOVERINGHAM GRAVEL CO.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

**KETTON STONE CO. (Prop. Andrew's Garage), Ketton**, nr. Stamford. (Tel.: Ketton 206.) Hardcore, roadstone, crushed stone, top soil, silica clay. Quarries at Ketton.

**NEW BARGE AND LIGHTER CO., LTD.**, Market Chambers, Peterborough (Tel. 5534/5), and Ship End Quarries, Wansford, near Peterborough. (Tel.: Wansford 384/5.) Roadstone, hardcore, broken stone, ballast, ashes, silica clay and sand.

**SWALE (PETERBOROUGH) SAND AND GRAVEL CO., LTD.**, 127 Eastfield Road, Peterborough. (Tel.: Peterborough 2091.) All grades washed and screened gravel and sand.

**PETERBOROUGH QUARRIES, LTD.**, Sandylands, near Peterborough. (Tel.: Market Deeping 2355—1 lines.) Eight quarries supplying all grades of hardcore and broken stone. Also Wetzim at Yarewell, Wansford. All grades gravel and sand at Maxey.

**FOLLARD, C. AND SON (TALLINGTON), LTD.**, Market House, Langtoft, Peterborough. (Tel.: Market Deeping 2140.) (See Lincolnshire for details.)

**WILSON GRAVEL, LTD.**, Head Office: Goldington, Bedford. (Tel.: 4587/8.) Large producers of all grades of washed aggregates in Northamptonshire and Bedfordshire. Regular deliveries anywhere. Office and pits: Portly Ford. (Tel.: Welford 256.)

## NORTH WALES

**WOOD, WHARTON AND CO., LTD.**, Pityall Gwyn near Llanarmon-n-y-Yale. (Tel.: Llanarmon-n-y-Yale 27.) Crushed limestone and tarmacadam, all grades.

## NORTH WALES

**CHESHIRE AND NORTH WALES TARRIED MACADAM CO., LTD.**, Llanarmon-n-y-Yale 43.) Hard, broken limestone, dry and coated to B.S.S. Inquiries to Registered Office: Market Chambers, Tower Square, Tunstall, Stoke-on-Trent. (Tel.: Stoke-on-Trent 8904.)

**ELLSMERE SAND AND GRAVEL CO., LTD.**, Wood Lane, Ellesmere, Salop. (Tel.: Ellesmere 167.) (For details, see Shropshire.)

**ENSTON BROS.**, Llwyn Isaf Quarry, Clynnog Fawr, Caernarvon. (Tel.: Clynnog Fawr 297/8.) All sizes crushed, washed, natural sand and gravel. Highest quality. Precast concrete products, ex our Griffiths Crossing Factory, Caernarvon. (Tel.: Caernarvon 2335/6.) Crushed granite ex our quarry, Pengwern and Gwydyr Quarries Ltd., Trefriw, Llanrwst, Denbighshire. (Tel.: Llanrwst 38.)

**PENMAENMAWR AND WELSH GRANITE CO., LTD.**, Quarries at Penmaenmawr (Tel. 2256/8), and at Trevor (Tel.: Clynnogfawr 223), Caernarvonshire. All sizes and gradings of crushed granite aggregate. Any quantity per day: immediate delivery ex stock. Coated granite also available.

**RUTHIN AND DENBIGH TARMACADAM CO., LTD.**, Denbigh. (Tel.: Denbigh 75.) Lime, limestone, carbonate of lime, tarmacadam, etc. Also inquiries to Llanarmon-n-y-Yale, 23 Colmore Row, Birmingham. (Tel.: Central 7408—4 lines), and Lunt Bros., Ltd., Stourbridge (Tel. 5201—6 lines).

**TERN HILL SAND AND GRAVEL CO., LTD.**, Alington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffordshire for details.)

## NOTTINGHAMSHIRE

**BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD.**, near Leicester. (Tel.: Coalville 1226/7/8; or London: Norwood Hill 115.) (For details, see Leics.)

**BURBON BROTHERS (EXCAVATIONS), LTD.**, Market Place Chambers, West Barn, Chesterfield. (Tel.: 7130.) (For details, see Derbyshire.)

**GLEN QUARRIES, LTD.**, Central Chambers, Wellgate, Rotherham. (Tel.: Rotherham 523.) Couriers and graded stone, concrete sand, building sand, plastering sand and crushed gravel; could be collected ex-quarry or quarry.

**GUNTHORPE GRAVELS (1958), LTD.**, (Tel.: Nottingham 77357; and Works: Lowdham 2131.) (An associate company of T. C. Campbell, Ltd.) All grades washed gravel and sand to B.S.S.

**HOVERINGHAM GRAVEL CO.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) Quarries at Hoveringham, Holme, Pierpoint, Colwick, Bleasby and Newark. All grades of washed gravel and sand to any specification. Crushed quarryite for surface dressing of roads a speciality. Plant capacity 8,000 tons per day.

**NEWARK GRAVEL AND CONCRETE CO., LTD.**, Grove Street, New Balderton, Newark, Notts. (Tel.: Newark 401.) All grades washed sand and aggregates to B.S.S. (Tel.: Matlock. Tel. 272/273.) (For details see Derbyshire.)

## OXFORDSHIRE

**AMEY'S AGGREGATES, LTD.**, Lower Wootton, Boars Hill, Oxford. (Tel.: Oxford 35421—10 lines.) Pits at Dry Sandford, near Abingdon, Sutton Courtenay, near Abingdon, near Reading. (Tel.: Sutton Courtenay 275.) Theale, near Reading. (Tel.: Theale 358.) Dorchester, Oxon. (Tel.: Clifton Hampden 236.) Billing, Northampton. (Tel.: Cogenhoe 464) for washed and graded aggregates to B.S.S.

**BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD.**, near Leicester. (Tel.: Coalville 1226/7/8; or London: Norwood Hill 115.) (For details, see Leics.)

**BENGRIY AND SONS, LTD.**, Longmoor, Kingsland, Loominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)

**BICESTER STONE CO., LTD.**, Stratton Audley, Bicester, Oxon. (Tel.: Stratton Audley 238.) Manufacturers and suppliers of all grades limestone tarmacadam, dry, pitching stone, hardcore, etc.

**CURTIS, J. AND SONS, LTD.**, Botley Works, Oxford. (Tel.: Oxford 41081/2/3.) Sand and all grades of washed aggregates. Pits at Radley, near Abingdon. (Tel.: Abingdon 441.)

**DANGERFIELD, F. J. AND CO., LTD.**, 261A Finchley Road, London, N.W.3. (Tel.: HAMPTON 8044/8.) For all road aggregates, kerbs, setts (See London.)

**DIX, G. H. AND SON, LTD.**, Freeland, Oxon. (Tel.: Freeland 234.)

**DUSTON STONE QUARRIES, LTD.**, New Duston, Northampton. (Tel.: Brixworth 278 and 298; Radon 505.) (See Nottinghamshire for details.)

**GRUNDON, S. (EWELEME), LTD.**, Eweleme, Oxon. (Tel.: Eweleme 20.) London Office (Tel.: Uxbridge 4156.) All grades washed aggregates. Path boggins, broken stone, building sand.

**HAINES, H. (WITNEY), LTD.**, Oxford Road, Witney. (Tel.: Witney 42.) All grades washed aggregates, hardcore, pitching and broken stone, Cotswold building and walling stone.

**WRAYBURY SAND AND GRAVEL CO., LTD.**, Station Rd., Theale, Reading, Berks. (Tel.: Theale 373.)

## RADNORSHIRE

**BENGRIY AND SONS, LTD.**, Longmoor, Kingsland, Loominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)

**NASH ROCKS STONE AND LIME CO., LTD.**, Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)

**OLD RADNOR TRADING CO., LTD.**, Quarries in Radnorshire. (Tel.: Kingston 11.) (See Herefordshire.)

**SALOP SAND AND GRAVEL SUPPLY CO., ADMOSTON**, Wellington (Tel. 961), Salop.

## RUTLAND

**BULLMOORES SAND AND GRAVEL, LTD.**, South Witham, Grantham, Lincs. (Tel.: Thistleton 223.) Building sand, hardcore, ashes. All grades washed sand and aggregate.

**GIBBONS, F. B. AND SONS, LTD.**, Welby House, Market Deeping, Peterborough. (Tel.: Market Deeping 3321/2383.) (See Lincolnshire for details.)

**HOVERINGHAM GRAVEL CO.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

**KETTON STONE CO. (Prop. Andrew's Garage), Ketton**, nr. Stamford. (Tel.: Ketton 206.) Hardcore, roadstone, crushed stone, top soil, silica clay. Quarries at Ketton.

**PETERBOROUGH QUARRIES, LTD.**, Sandylands, near Peterborough. (Tel.: Market Deeping 2355—1 lines.) Quarry at Greetingham, all grades of broken stone and hardcore. (See also Northamptonshire.)

## RUTLAND

**FOLLARD, C. AND SON (TALLINGTON), LTD.**, Langtoft, Peterborough. (Tel.: Market Deeping 2140.) (See Lincolnshire for details.)

## SCOTLAND

**KEIR AND CAWDER, LTD.**, Kirkintilloch Road, Bishopbriggs. (Tel.: Bishopbriggs 3200.) All grades washed sand and gravel aggregates.

## SHROPSHIRE

**BALLIDON QUARRIES, LTD.**, Ballidon, near Ashbourne, Derbyshire. (Tel.: Farwich 201 and 202.) Clean and graded dry limestone to B.S.S., all sizes, coated limestone to B.S. 802 and 1621 and wet-mix; large output; reliable deliveries.

**BENGRIY AND SONS, LTD.**, Longmoor, Kingsland, Loominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)

**DUNNING AND SON, LTD.**, Haughmond Quarry, near Shrewsbury. (Tel.: Upton Magna 286/7.) All grades of high-quality roadstone, concrete aggregates and coated macadam. All to B.S.S. Any quantity available for immediate delivery.

**ELLSMERE SAND AND GRAVEL CO., LTD.**, Wood Lane, Ellesmere, Salop. (Tel.: Ellesmere 167.) All grades of washed gravel, aggregates, concrete and building sand.

**HARPER AND THOMAS, LTD.**, Bayston Hill Quarry, Shrewsbury. (Tel.: Bayston Hill 351.) High quality roadstone, chippings, concrete aggregates, hardcore and coated macadam. Large tonnages always available.

**NASH ROCKS STONE AND LIME CO., LTD.**, Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)

**OLD RADNOR TRADING CO., LTD.**, Kingston (Tel. 11.) (See Herefordshire.)

**SALOP SAND AND GRAVEL SUPPLY CO., ADMOSTON**, Wellington (Tel. 961), Salop.

**TERN HILL SAND AND GRAVEL CO., LTD.**, Alington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffordshire for details.)

**TRENTHAM GRAVEL CO., LTD.**, Lordley Quarries, Willoughbridge, near Market Drayton, Salop. (Tel.: Pipe Gate 304/5.) All sizes crushed or natural washed gravel. Twice washed sharp concreting sand and plastering sand. Plant capacity 2,000 tons per day.

## SOMERSET

**ASHAM QUARRY CO., LTD.**, Chantry, Frome. (Tel.: Nunney 351.) All sizes limestone block, broken and aggregates. Tarrad and bituminous macadam sand. Ex-quarry or ex-quarry.

**DANGERFIELD, F. J. AND CO., LTD.**, 261A Finchley Road, London, N.W.3. (Tel.: HAMPTON 8044/8.) For all road aggregates, kerbs, setts (See London.)

**GILSON, E. C. AND SONS, LTD.**, Holcombe, near Bath. (Tel.: Stratton-on-the-Fosse 243.)

**HALL AND CO., LTD.**, Longmoor House, Ashton Vale Road, Bristol, 3. (Tel.: 63001.) Gravel aggregates, concrete, plastering and building sand.

**ROADS RECONSTRUCTION (1934), LTD.**, Stoneleigh House, Frome. (Tel.: Frome 2361.) All sizes broken limestone, dry and coated, to British standards. Precast concrete products.

**WAINWRIGHT, JOHN, AND CO., LTD.**, Shepton Mallet. (Tel.: Shepton Mallet 2366/7.) All sizes basalt, coated basalt, concrete aggregates, filtering media, building blocks and slabs.

## SOUTH SCOTLAND

**ESK MANUFACTURING CO., LTD.**, Carlisle. (Tel.: Carlisle 2-4941.) (For details see Cumberland.)

## SOUTH WALES

**IN-SITU CONCRETE, LTD.**, Victoria Works, Ebbw Vale (Tel. 3032) and Phoenix Works, Cardiff (Cardiff 6311) for limestone and slag aggregates, ready-mixed concrete, tarmacadam, media, filling, etc., kerbs and pavings.

**PENMAENMAWR AND WELSH GRANITE CO., LTD.**, 18 Quay Street, Cardiff. (Tel.: 20646/7.) All sizes and gradings of crushed granite aggregate from our Cardiff and Swansea Dock Depots. Dolomite aggregate from Ewenny Quarry, Bridgend. (Tel.: 1086/7.) Coated stone also available.

**SESSIONS AND SONS, LTD.**, West Dock, Cardiff. (Tel.: 20646/7.) All sizes aggregate, dredged and graded to British Standards. Branches Newport and Swansea. (Also Gloucester and Hereford.)

**SOUTH WALES SAND AND GRAVEL CO., LTD.**, Head Office: P.O. Box 8, Beaufort Buildings, Swansea. (Tel.: Swansea 53071—5 lines.) Sand and gravel merchants, builders' merchants. Pennant Quarry owners, slag hardcore, ashes, filling, graded chippings, filter media. Depot: Cardiff, Newport, Barry, Port Talbot, Briton Ferry, Swansea, Llanelli.

## STAFFORDSHIRE

**BALLIDON QUARRIES, LTD.**, Ballidon, near Ashbourne, Derbyshire. (Tel.: Farwich 201 and 202.) Clean and graded dry limestone to B.S.S., all sizes, coated limestone to B.S. 802 and 1621 and wet-mix; large output; reliable deliveries.

**BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD.**, near Leicester. (Tel.: Coalville 1226/7/8; or London: Norwood Hill 115.) (For details, see Leics.)

**CHRODEN GRAVEL, LTD.**, Cheddle, Stoke-on-Trent. (Tel.: Team 393.) Manchester Office: Blackfriars 3766/7. Plant capacity, 2,000 tons per day.

**DUNNING AND SON, LTD.**, Wood End Gravel Pits, Hednesford. (Tel.: Hednesford 302/325.) Washed sand and gravel. All to B.S.S. High-quality roadstone, concrete aggregates and coated macadam from our Haughmond Quarry, near Shrewsbury. (See Shropshire.)

**HARPER AND THOMAS, LTD.**, Bayston Hill Quarry, Shrewsbury. (See Shropshire for details.)

**HILTON GRAVEL, LTD.**, Cheddle, Staffs. (Tel.: Team 241.) Also at Longton, Stoke-on-Trent. (Tel.: Longton 32196) and Sireston, Burton-on-Trent. (Tel.: Burton 6061.)

**HULAND GRAVEL CO., LTD.**, Cheddle, Stoke-on-Trent. (Tel.: Cheddle 2323/4, 2119 and 2195.) Manchester Office: Harby's Buildings, 3 Catesau Street, Manchester, 3. (Tel.: Blackfriars 2277/8.)

**RUGELEY GRAVEL CO., LTD.**, Rugeley, Staffs. (Tel.: Rugeley 251/2.) Entirely modern plant. Sand classifiers. Finest aggregate to B.S.S. Large output.

# CONTRACTORS' GUIDE TO AGGREGATES

## STAFFORDSHIRE

**SALISBURY AND WOOD, LTD.**, Matlock. (Tel. 272/273.) (For details see Derbyshire.)  
**SHIRE OAK GRAVELS, LTD.**, Lichfield Road, Walsall Wood, Staffs. Washed crushed gravel and washed sand. (Tel. Brownhills 3253.)  
**TERN HILL SAND AND GRAVEL CO., LTD.**, Alimington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) Pit sand, concrete sand, and all grades of washed crushed gravel. Hardcore, clinkers, ashes and boggins.  
**TRENTHAM GRAVEL CO., LTD.**, Lordsley Quarries, Willoughbridge, near Market Drayton, Staffs. (Tel.: Pipe Gate 304/5.) All sizes crushed or natural washed gravel. Twice washed sharp concreting sand. Plastering sand. Plant capacity 2,000 tons per day.

## SUFFOLK

**ALRESFORD SAND AND BALLAST CO., LTD.**, Alresford Creek, near Colchester, Essex. (Tel. Wivenhoe 341.) Suffolk area pits at Bures and Stoke-by-Nayland. All grades washed aggregates and also boggins.  
**BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD.**, near Leicester. (Tel.: Coalville 1226/7/8; or London: Norwood Hill 115.) (For details, see Leics.)  
**DANGERFIELD, F. J. AND CO., LTD.**, 261A Finchley Road, London, N.W.3. (Tel.: HAMPTON 8044/8.) For all road aggregates, kerbs, setts. (See London.)  
**DARBY'S SAND AND GRAVEL CO., LTD.**, Pit a Chippingham, Cambs. (See Cambs.)  
**DICKERSON, M., LTD.**, Teversham Corner, Newmarket Road, Cambridge. (Tel. Cam 56973/4.) (See Cambs.)  
**FRECKENHAM GRAVEL CO., LTD.**, Pit at Freckenham. (See Cambs.)  
**HALL AND CO., LTD.**, West End Road, Ipswich. (Tel.: Ipswich 55593/4.) Pits at Kesgrave and Homersfield, near Harleston. Gravel aggregates, concreting, plastering and building sand.  
**MACLAREN BROS. (KENNETH), LTD.**, station Road, Kennett, Cambs. (Tel.: Kentford 333/4.) (See Cambs.)  
**ST. IVES SAND AND GRAVEL CO., LTD.**, 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3/4.) (See Huntingdonshire for details.)  
**THORPE GRAVEL PITS, LTD.**, Harvey Lane, Norwich. (Tel.: Norwich 33243/4.) (See Norfolk.)  
**WEBB, G., CAMBRIDGE**, 35 Magrath Avenue, Cambridge. (Tel. 3969/4353.) (See Cambs.)

## SURREY

**COFF, HARRY A., LTD.**, Buckhurst Hill, Chesham, Ascot, Berks. (Tel. 1026/7.) (See Berkshire.)  
**EASTWOOD SALES, LTD.**, Eastwood House, City Road, E.C.1. (Tel.: 7310.) (See Berkshire.)  
**Sand and Ballast Pits, Thorpe, near Egham.** (Tel.: Egham 3121.) Producers and distributors of all grades of washed aggregates.  
**GILSON, S. C. AND SONS, LTD.**, Holcombe, near Bath. (Tel.: Stratton-on-the-Fosse 243.)  
**HALL AND CO., LTD.**, Victoria Wharf, Croydon. (Tel.: Croydon 4444.) Other main depots at Coulsdon, Epsom, Mitcham, Oxted, Purley, Redhill, Tadworth and Woking. Pits at Sand and Reigate. Gravel aggregates, concreting, plastering and building sand, Surecrete precision-mixed concrete.  
**HARRIS, M. F. AND CO., LTD.**, Kingston Road, Leatherhead, Surrey. (Tel. 3497.) (See Sussex.)  
**JANES AND CO., LTD.**, 2C Buckingham Avenue, Slough. Sand, aggregates, hardcore, ashes, bulldozing and bulk excavation. (Tel.: Slough 20361/2/3.)  
**LONDON BALLAST CO. LTD.** (Tel.: Paddington 5064.) 55A Porchester Terrace North, Paddington, W.2.  
**MARCO (AGGREGATES), LTD.**, Pitt, Norlands Lane, Thorpe, near Egham. (Tel.: Chertsey 3401.) Producers and distributors of high-grade washed sand, shingle, ballast, etc.  
**MARCO (CROYDON), LTD.**, Hampton Road, West Croydon. (Tel.: Thornton Heath 4236/7/8.) All building and road aggregates.  
**WELLS, A. L. AND SON, LTD.**, Builders' Merchants, Garlands Road, Leatherhead. (Tel.: 3018/9.) Sand aggregates, hardcore, ashes, setts. Clinker block manufacturers.  
**WINFON, WM. R., LTD.**, Sand, Woking. (Tel.: Kingley 2454/5.) All grades sand, shingle, ballast, boggins and ashes. Clinker block manufacturers.

## SUSSEX

**AVANN, F.**, Cavendish Avenue, Eastbourne. (Tel.: 4969/70.) Washed and graded ballast, sand, bricks, breeze and concrete blocks, hardcore, clinker, tarmac, etc., supplied.  
**DANGERFIELD, F. J. AND CO., LTD.**, 261A Finchley Road, London, N.W.3. (Tel.: HAMPTON 8044/8.) For all road aggregates, kerbs, setts. (See London.)  
**GILSON, S. C. AND SONS, LTD.**, Holcombe, near Bath. (Tel.: Stratton-on-the-Fosse 243.)  
**HALL AND CO., LTD.**, 16 Chapel Road, Worthing. (Tel.: Worthing 7840.) Other main depots at Bexhill, Bognor, Crowborough, East Grinstead, Eastbourne, Horsham, Hove and Seaford. Pits at Washington, Crumblies, near Eastbourne, Chichester, Rye Harbour, Midhurst, Shoreham and Portlady. Gravel aggregates, concreting, plastering and building sand, Surecrete precision-mixed concrete.  
**HARRIS, M. F. AND CO., LTD.**, West Station Goods Yard, Bexhill. (Tel. 61); Cavendish Place, Eastbourne. (Tel. 3800); Dominion Road, Worthing. (Tel. 8222); Whitbread Lane, Northiam. (Tel. 2211); Station Goods Yard, Haywards Heath. (Tel. 1750); Crawley Road, Horsham. (Tel. 3566); The Hornet, Chichester. (Tel. 4181). All grades aggregates, hardcore, clinker, ashes, etc.  
**WRIGHT, C. AND SONS (BYTON), LTD.**, 19 Bristol Gardens, Brighton. (Tel.: Brighton 63357 and 62406.) All-in ballast, washed and crushed shingle, sand, ashes, hardcore, chalk, bricks, etc.

## WARWICKSHIRE

**BALLIDON QUARRIES, LTD.**, Ballidon, near Ashbourne, Derbyshire. (Tel.: Farwich 201 and 202.) Clean and graded dry limestone to B.S.S., all sizes, coated limestone to B.S. 802 and 1621 and wet-mix; large output; reliable deliveries.  
**BRUNTINGTHORPE GRAVELS, LTD.**, Gilmorton, near Rugby. (Tel.: Lutterworth 46.) All sizes gravel aggregates, building and concrete sand to B.S.S., scientifically balanced ballast.  
**COOPER, J. A. (TRANSPORT), LTD.**, Hurley, near Atherstone, Warwick. (Tel.: Hurley 225.) Shale pit at Newgate Colliery, Bedworth, near Coventry. Shale, hardcore and clinker ash as dug or graded. Delivered to site or loaded into customers' own vehicles by arrangement.  
**DUSTON STONE QUARRIES, LTD.**, New Duston, Northampton. (Tel.: Brixworth 278 and 298; Duston 505.) (See Northamptonshire.)  
**HALL AND CO., LTD.**, 188 Lichfield Road, Four Oaks, Sutton Coldfield. (Tel.: Four Oaks 356.) Gravel aggregates, concreting, plastering and building sand.  
**HARRABIN, W. H. AND SONS, LTD.**, Navigation Bridge, Stony Stanton Road, Coventry. (Tel.: 89439.) All materials, granites, hardcore, kerbs and flags, gravel, sands, ashes, setts, etc.  
**JUDKINS, LTD.**, Granite Quarries, Tuttle Hill, Nuneaton. (Tel.: Nuneaton 3411—10 lines.) All sizes washed granite aggregate, tarred and bituminous macadam. Slab mix a speciality.  
**WELFORD GRAVELS, LTD.**, Head Office: Goldington, Bedford. (Tel. 4587/8/9.) (See Bedfordshire and Northamptonshire.)  
**YEOMANS, G. R., LTD.**, Oxford Road, Ryton-on-Dunsmore, near Coventry. (Tel.: Coventry, Tollbar 2376/7/8.) Shale, hardcore—as dug and graded. Loaded into vehicles or delivered to site.

## WESTMORLAND

**BROOMBYS, LTD.**, Sandisle, Milnthorpe, Westmorland. (Tel.: Milnthorpe 3251/2.) All grades washed crushed gravel, sand, limestone, granite chippings, pitching, tarmac, rockery stone, etc.  
**ESK MANUFACTURING CO., LTD.**, Carlisle. (Tel.: Carlisle 2-4941.) For details, see Cumberland.

## WILTSHIRE

**AMEY'S AGGREGATES, LTD.**, Lower Wootton, Boars Hill, Oxford. (Tel.: Oxford 35421—10 lines.) Pits at Dry Sandford, near Abingdon, Sutton Courtenay, near Abingdon. (Tel.: Sutton Courtenay 275.) Theale, near Reading. (Tel.: Theale 358.) Dorchester, Oxon. (Tel.: Clifton Hampden 236.) Billing, Northampton. (Tel.: Cogenhoe 464) for washed and graded aggregates to B.S.S.  
**BULL BROS. & AND L., LTD.**, 126A High Street, Winchester. (Tel.: 2264.) (See Hampshire.)

## WILTSHIRE

**COKE, T. F. (CHELTENHAM), LTD.**, 267 Gloucester Road, Cheltenham. (Tel.: 4717/4874.) (See Glos.)  
**DANGERFIELD, F. J. AND CO., LTD.**, 261A Finchley Road, London, N.W.3. (Tel.: HAMPTON 8044/8.) For all road aggregates, kerbs, setts. (See London.)  
**GILSON, S. C. AND SONS, LTD.**, Holcombe, near Bath. (Tel.: Stratton-on-the-Fosse 243.)  
**MOREYS (VERWOOD), LTD.**, Verwood, Wiltshire, Dorset. (Tel.: Verwood 234.) Concrete aggregates, building sand, boggins, path gravel.  
**FOOLE (LECHLADE), LTD.**, Gravel Pit, Burford Road, Lechlade, Glos. (Tel.: Lechlade 219.)  
**TAYMAC, LTD.**, Wootton Bassett. (Tel.: 391—5 lines.) Pits at Lacock. (Tel.: 304.) Wilts.; Fairford and Poulton, Glos. (Tel.: Fairford 365/6.) Washed crushed and graded aggregates. Washed and graded building sand. Graded clinker media.

## WORCESTERSHIRE

**BALLIDON QUARRIES, LTD.**, Ballidon, near Ashbourne, Derbyshire. (Tel.: Farwich 201 and 202.) Clean and graded dry limestone to B.S.S., all sizes, coated limestone to B.S. 802 and 1621 and wet-mix; large output; reliable deliveries.  
**BENRGY AND SONS, LTD.**, Longmoor, Kidlington, Herefordshire. (Tel.: Kidlington 301/4.) (See details under Herefordshire.)  
**DINMORE GRAVEL AND STONE CO., LTD.**, 5A King Street, Hereford. (Tel.: Hereford 5523.) Supplies of all grades of concrete aggregates, sand, pitching stone and hardcore.  
**DUNNING AND SON, LTD.** (See Shropshire.)  
**HARPER AND THOMAS, LTD.**, Byington Hill, Quetz, Shrewsbury. (See Shropshire for details.)  
**NASH ROCKS, STONE AND LIME CO., LTD.**, Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)  
**OLD RADNOR TRADING CO., LTD.**, Kidport. (Tel. 11.) (See Herefordshire.)

## YORKSHIRE

**BRAITHWAITE, A. AND CO., LTD.**, Conyngham Hall, Knaresborough. (Tel.: Knaresborough 2286.) Quarries at Knaresborough. (Tel.: Knares. 2286) and Cliffe. (Tel.: Old Catt. 157.) Washed, crushed and graded concrete aggregates to B.S. Specification. Output 2,000 tons daily. Ready mixed mortar and wet-mix concrete also available.  
**BURROWS BROTHERS (EXCAVATIONS), LTD.**, Market Place Chambers, West Barns, Chesterfield. (Tel.: 7130.) (For details, see Derbyshire.)  
**DENNIF, ALAN S., LTD.**, Kiveton Park, near Sheffield. (Tel.: Kiveton 446/7/8.) Truck-mixed and pre-mix concrete, washed and crushed gravel, concrete sand, building sand, crushed and graded stone.  
**GLEN QUARRIES, LTD.**, Central Chambers, Welles Rotherham. (Tel.: Rotherham 5223.) Crushed and graded stone, concreting sand, building sand, planning sand and crushed gravel could be taken ex-quarry or delivered.  
**HOVERINGHAM GRAVEL CO., LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)  
**SALISBURY AND WOOD, LTD.**, Matlock. (Tel.: 272/273.) (For details see Derbyshire.)  
**STANLEY FERRY GRAVEL CO., LTD.**, Norwell Union Building, City Square, Leeds. 1. (Tel.: Leeds 26361.) Washed, crushed and natural gravel and gravel. Supplies to specification, low daily production. Centre of Yorks. West Riding market. Pit: Wakefield.  
**WELBECK SAND AND GRAVEL CO.**, Parkhill, Wakefield. (Tel.: Wakefield 4454.) Washed sand and gravel.  
**WEST RIDING GRAVEL CO.**, Norwich Union Building, City Square, Leeds. 1. (Tel.: Leeds 23562.) More than 1,000-ton daily plant produces washed grit and all sands. All aggregates to specification. Competes Yorks. West Riding to Lancs. border. Pit: Wakefield.  
**WHITAKER, B. AND SONS, LTD.**, Milland Road, Leeds. (Tel.: Leeds 75207.) Washed, graded sand and gravel. Aggregates supplied to specification. Quarries at Wakefield, Ripon, Masham.  
**X.L. GRANITE (INGLETON), LTD.**, Head Office: Clapham, via Lancaster. (Tel.: Clapham 318.) Works: Tel.: Ingleton 231. All sizes and grades of Ingleton granite aggregate.

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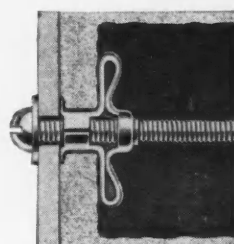
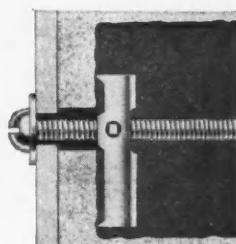
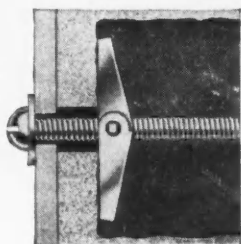
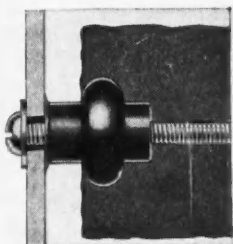
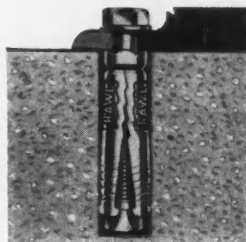
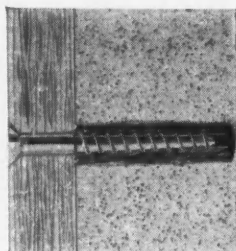
Occupation/Business.....  
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THE INDEX TO DISPLAYED ADVERTISEMENTS WILL BE FOUND ON PAGE 976

London: Printed and published by the Proprietors, The Contract Journal Company, Ltd., 32 Southwark Bridge Road, S.E.1.  
Thursday, February 25, 1960. Registered at the General Post Office as a newspaper.

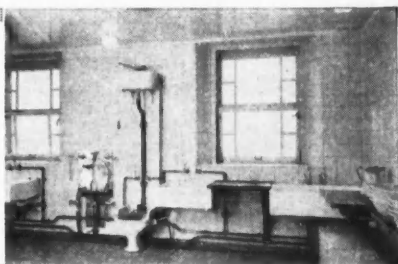
# SOLID OR CAVITY MATERIALS



## Rawlplug fixing devices save you time and money

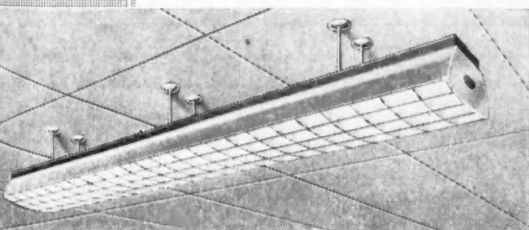
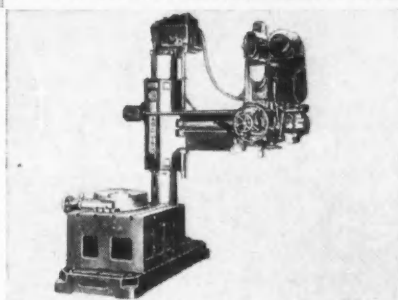
### SCREW FIXINGS

Use the famous RAWLPLUG for neat, firm fixings in brick, stone, etc. All sizes for up to 3/4" diameter Coach Screws. Rawlplugs are waterproofed and unaffected by climatic conditions.



### BOLT FIXINGS

For bolting down machines, light or heavy, use RAWLBOLTS, a dry firing that grips by expansion. No cold chiselling, no waiting for cement to harden. Sizes up to 1" bolt diameter.

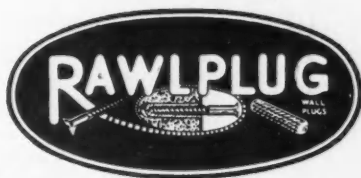


**CAVITY FIXINGS** The amazing RAWLNUT, screwed up from the front, forms its own rivet head behind the material—airtight, watertight, vibration-proof, squeak-proof! For all thin or hollow materials.

Fixing methods that served well enough in by-gone days fall far short of modern standards of efficiency, when an average machine can be safely bolted down *and in operation* within an hour or so of arrival!

Rawlplug Fixing Devices always save time and therefore money, for it is a simple fact that on *every* screw and bolt fixing job, in solid or cavity materials, you'll make strong, absolutely safe fixings in *far less time than by any other method*.

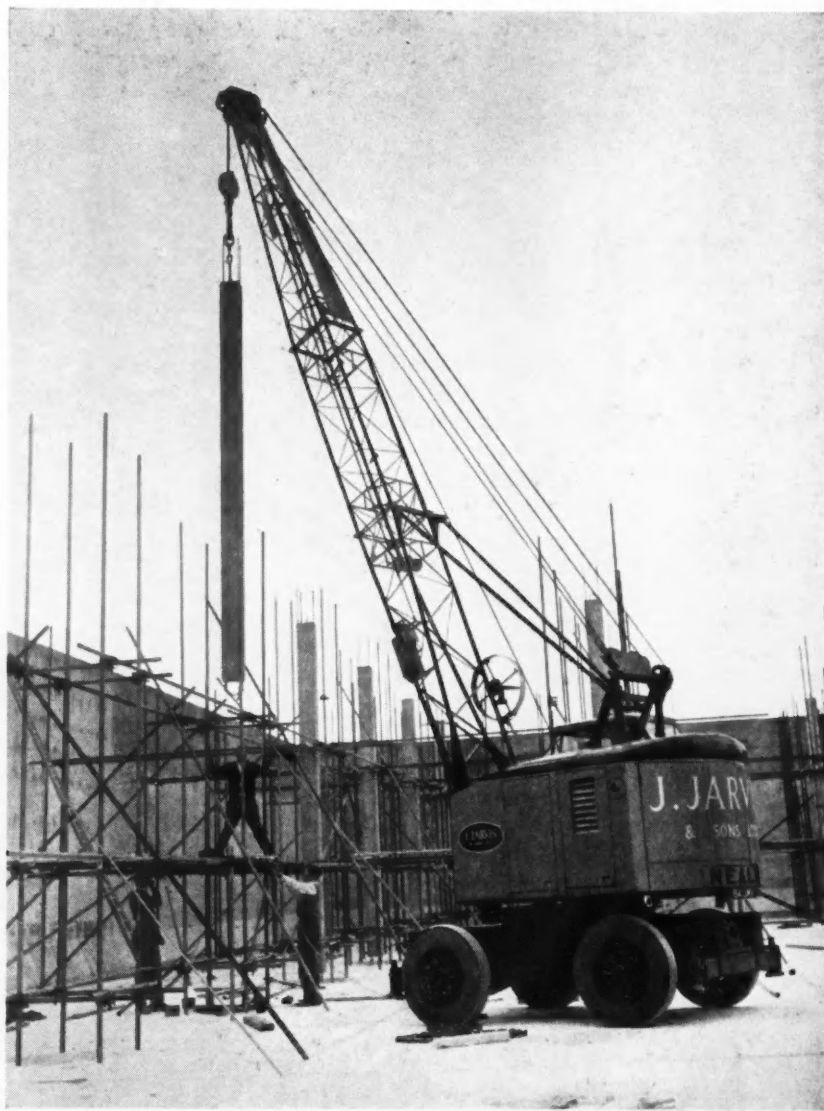
You can easily prove this for yourself. The first step is to write for full details of the 21 different types of Rawlplug Fixing Devices. Write us now—and if after studying our literature, you have any difficulties about a particular problem, our Technical Service specialists will be delighted to advise you without obligation.



## FIXING DEVICES

THE RAWLPLUG COMPANY LTD  
CROMWELL ROAD, LONDON, S.W.7





**NEAL**  
the  
name  
behind  
the  
best  
cranes  
in  
any  
industry

Type NS55—6 tons capacity

Photograph by courtesy of the  
Metropolitan Water Board  
and Contractors J. Jarvis & Sons Ltd.

**NEAL**  
MOBILE CRANES

## cheaper in the long run

*Although the initial cost of a crane is undoubtedly important, it is a fact that price is only proportional to quality and lower quality inevitably means higher ultimate cost. It is the ultimate cost that counts in the long run.*

### What do these NEAL features mean to you?

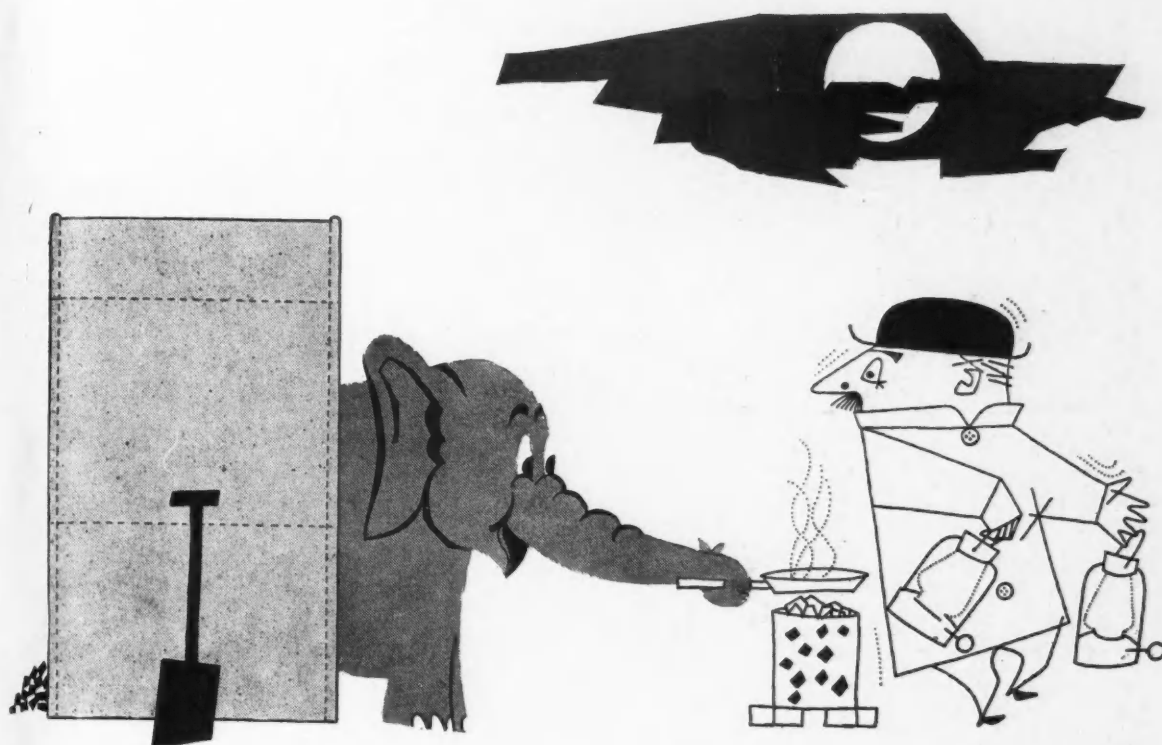
- DIRECT DIESEL MECHANICAL DRIVE
- TOTALLY ENCLOSED GEARS
- CLUTCHES DESIGNED FOR LONG LIFE
- ROBUST CONSTRUCTION
- HYDRAULIC CONTROLS FOR EFFORTLESS OPERATION

### To NEAL users they mean —

- LESS TIME WASTED IN MAINTENANCE
- MORE WORK EACH DAY AT LESS COST
- A LONGER WORKING LIFE

**R. H. NEAL & COMPANY LIMITED.**

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. . . but for complete protective cover

## JOHN SMITH

TARPAULINS—SHELTERS—COLLAPSIBLE LORRY TILTS

*with immediate delivery*



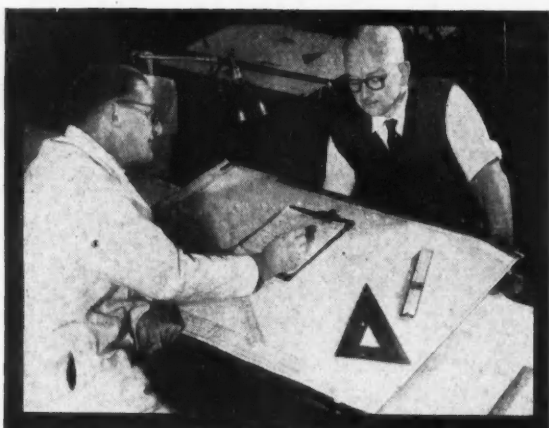
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*Head Office & Works: Hainault Works, Chadwell Heath, Romford, Essex.*

*Branch Office & Works: Lower Holmes Street, Cadoxton, Barry, Glam.*

*Telephone: Seven Kings 6070 (6 lines)*

*Telephone: Barry 2372*

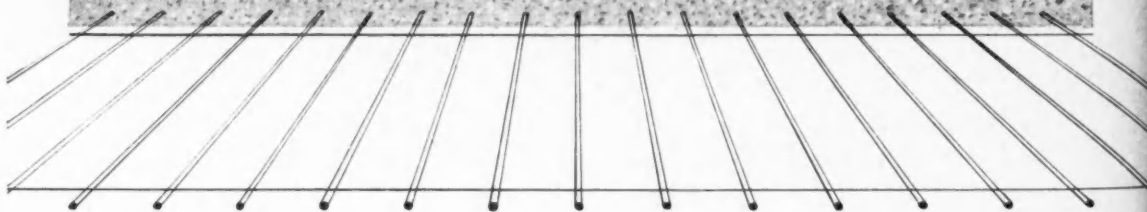
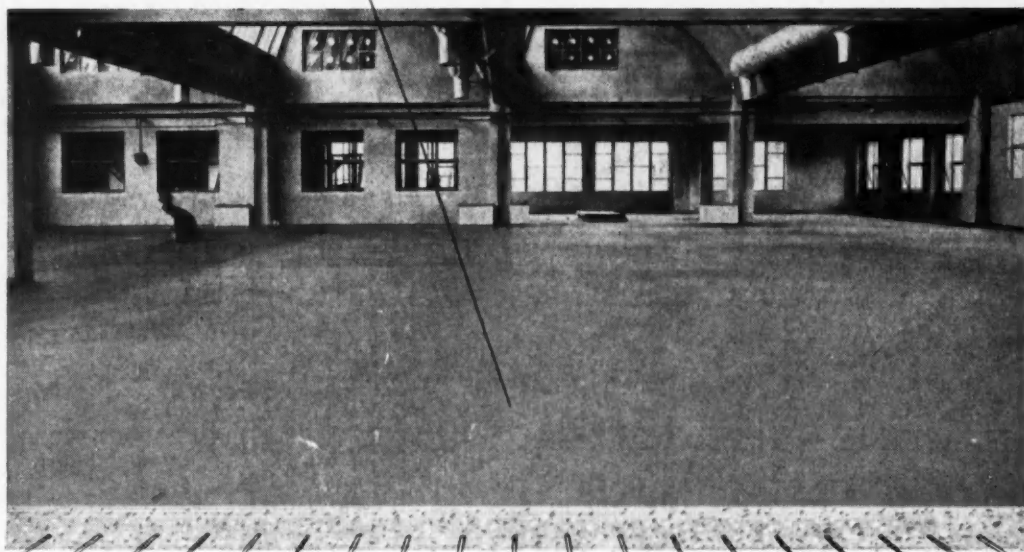


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WITHIN A FLOOR SLAB

**fulfils the engineers'  
requirements accurately**

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